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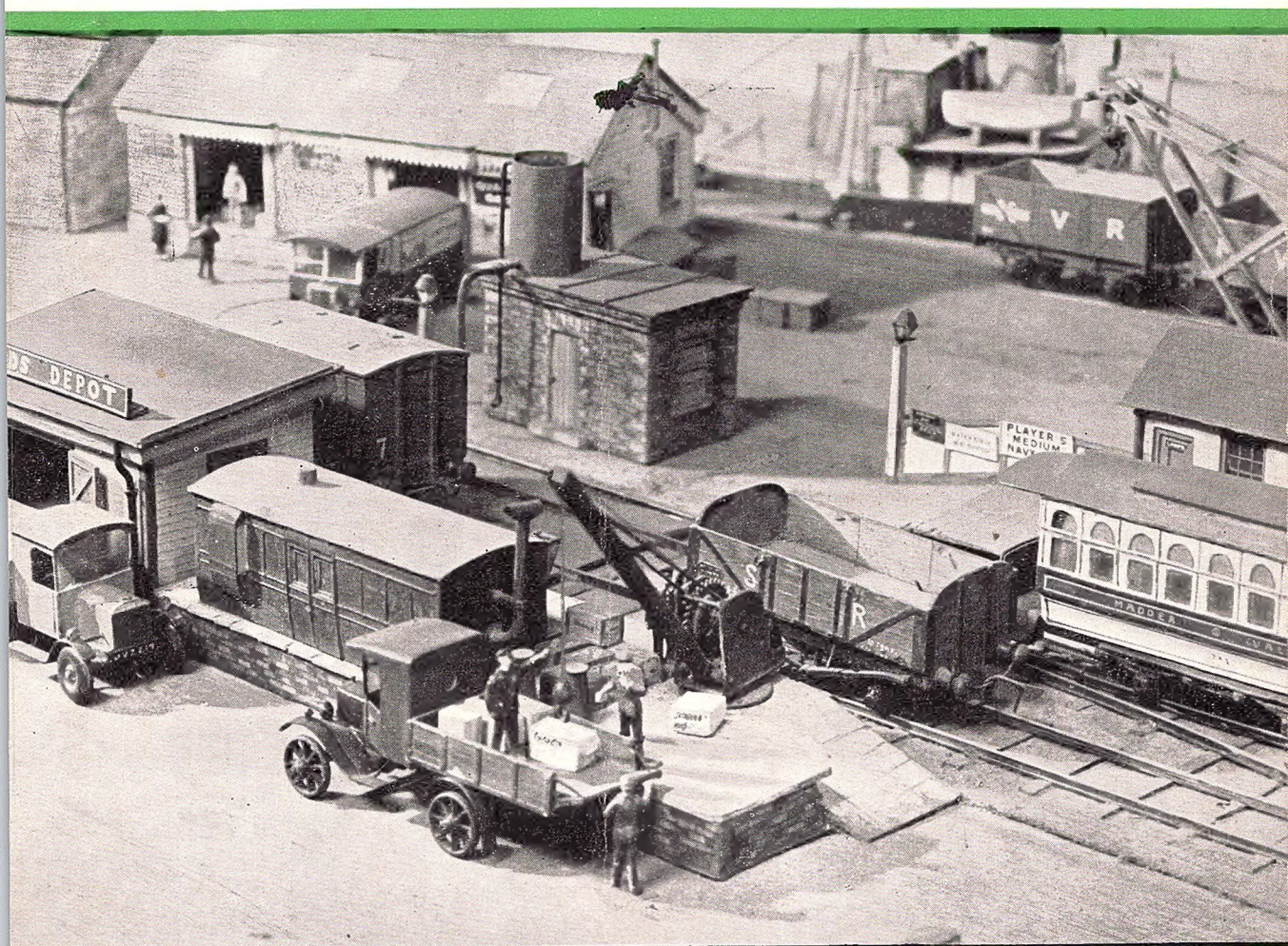
FEBRUARY 1955



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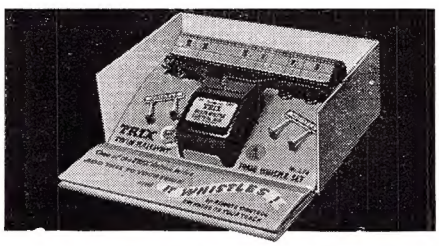

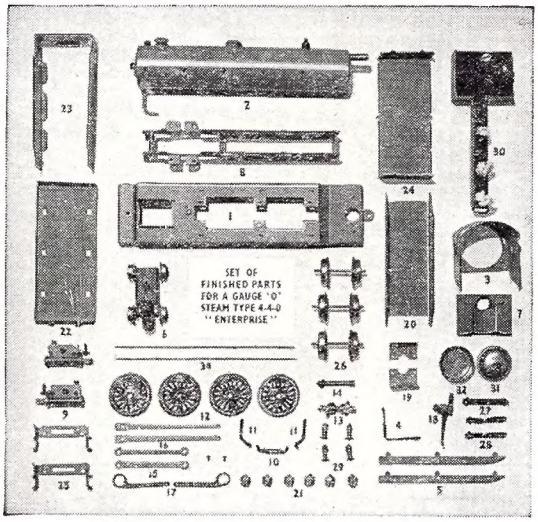

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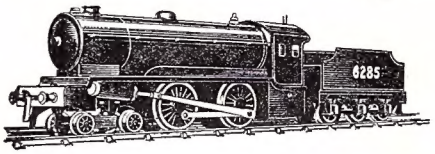

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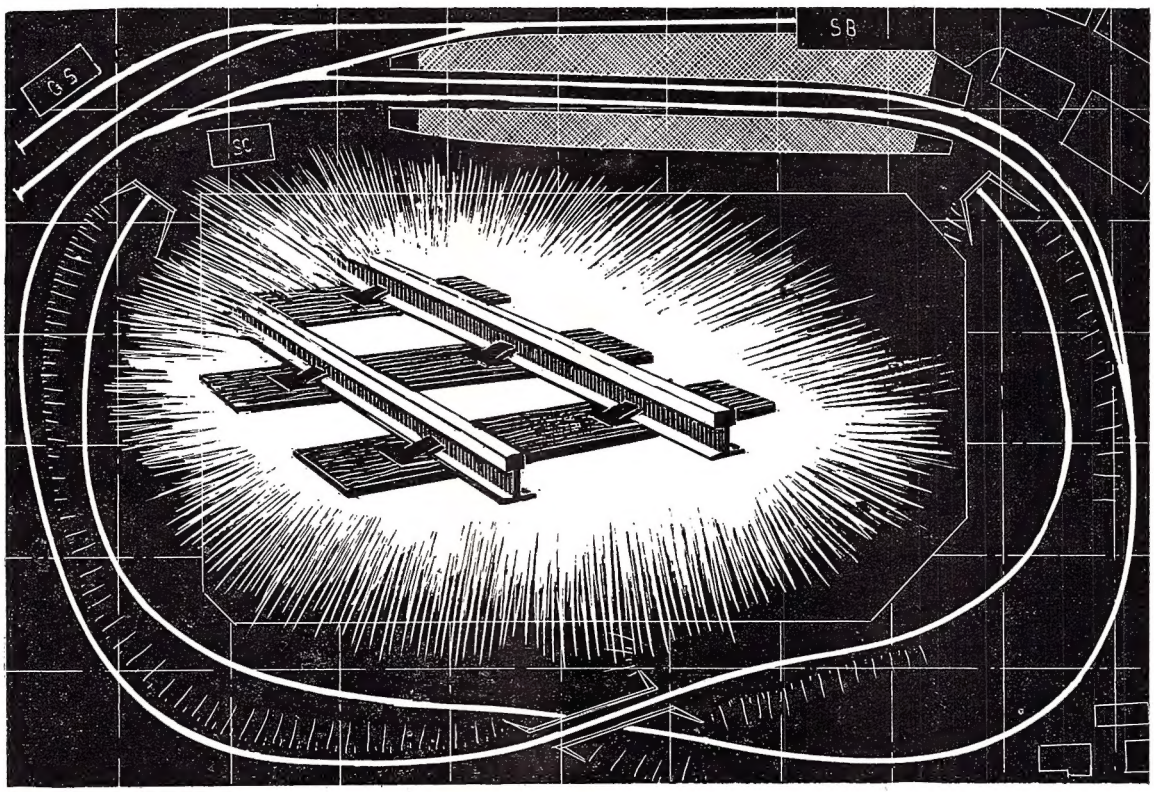

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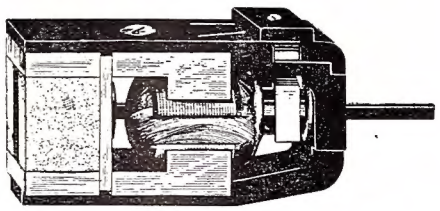

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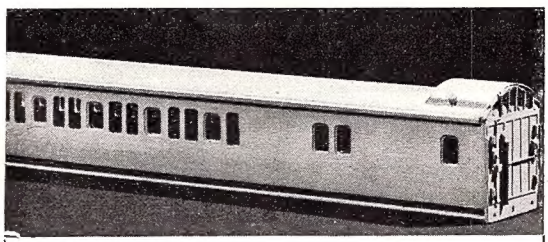

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For the Average Enthusiast Specializing in Small Scale Railway Modelling

VOL. 6 No. 52 FEBRUARY 1955

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NEXT MONTH

Edward Beal tells you how to make old-time road vehicles, and Peter Denny discusses the construction of 4mm. scale coaches. Other articles include The Fernhill Railway and G.S.W.R. 1st and 3rd Class Carriages.

THE LOBBY

FEBRUARY, the smallest or rather shortest month of the year, is perhaps, for no better reason, an appropriate time for us to consider the special problems of the enthusiast with nowhere to put his layout. Happily the problem of finding a home is no longer insuperable, but there is often the difficulty of finding, within the home, somewhere to put the model railway, for few houses today have spare rooms that can be requisitioned for this important function.

There are many possibilities—perhaps a reduction in scale, or a narrow gauge line, which offers some of the advantages of a reduction in size while retaining the preferred scale. There are the potential sites that are sometimes to be found, possibly the loft, which if correctly boarded in gives a reasonably large and convenient site.

If all else fails, then one can have a portable line. However, it is important, we think, to consider the storage of such a layout. If a large cupboard is available it can be utilized, otherwise it is advisable, if only for the sake of domestic harmony, so to arrange matters that when the layout is closed it is an attractive item of furniture.

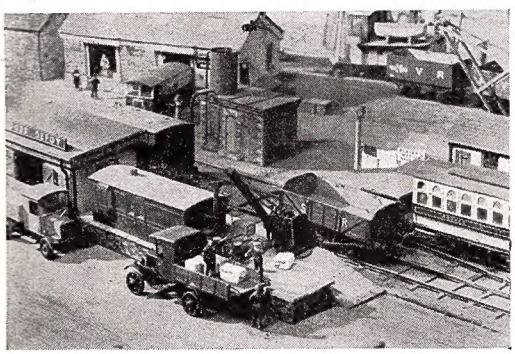
No matter what one does, there remains the inescapable fact that in a small space a railway cannot possibly be elaborate and extensive. This is not altogether a disadvantage, for the reduction in quantity can, and should, mean an improvement in quality, as each model can have the little extra attention needed. Nor need the working be dull, for as long as strict prototype practice is followed the size of the layout has little effect on the operation, and even the smallest, simplest single-track terminus will provide hours of enjoyment.

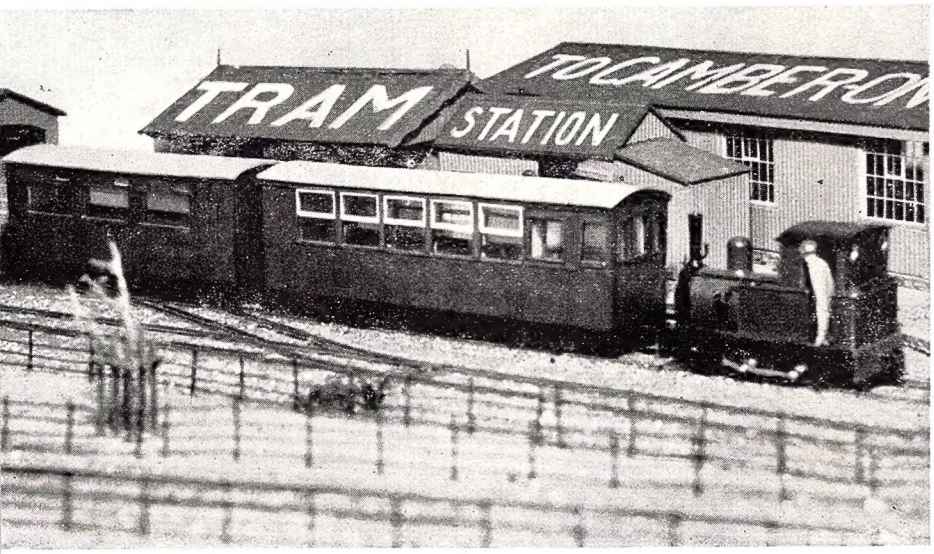
The small-space enthusiast, therefore, need not be discouraged, as we hope the contents of this issue will amply demonstrate.

COVER PICTURE

The light railway vehicles shown in this shot of J. H. Ahern's famous Madder Valley line are particularly suited to small-space layouts.

(Photo : J. H. Ahern)





Railway of the Month

THE RYE &

Maurice Deane, having reached the point where little further could be done on his famous model of the Culm Valley Branch, has found fresh fields to conquer in the Rye and Camber Tramway.

IT is often said with regard to building a layout that it is never complete; but while this is an undisputed fact, when a prototype branch is modelled a point can be reached, as in my case, when one's thoughts turn to a change of scene as a subsidiary outlet for one's activities. It was thus that the idea of a narrow-gauge layout in a really portable form was born and the search for a compact prototype was begun.

A glance through H. C. Casserley's *Locomotive Cavalcade* brought to light a pretty shot of the late Rye and Camber Tramway locomotive No. 1, taken at Rye in 1931. From that moment the hunt was on to obtain information and photographs of this shy little light railway or tramway, whichever you please to call it, which functioned right up to the days prior to the recent war, although unfortunately the motive power at this late date was an ugly little petrol tractor.

Research efforts were rewarded by unearthing from various sources about a dozen photographs of this system showing the general layout, locos, rolling stock and buildings. The rolling stock of the Rye and Camber comprised in the earlier days two diminutive 2-4-0 tank locos, two odd-looking passenger cars carried on small bogies and three small open goods wagons. The track mileage was 2½ of 3ft. gauge running over flat reclaimed meadowland to the sand dunes at Camber-on-Sea in Sussex. Incidentally, this enterprise had no connection for exchange traffic with the main railway system in Rye and was built to serve purely local needs.

An approach to the makers of the original locomotives in 1895, Messrs. Bagnalls of Stafford, was courteously received and in due course a line drawing of "Victoria" of the Rye and Camber Tramway was supplied to me. This acquisition gave some real data to get to work on.

From the drawing it was soon evident that the prototype was indeed a real tiny tot, with driving wheels of two-foot diameter and leading wheels of just over a foot, the fixed wheelbase being approximately three feet. These small dimensions set an immediate problem as to how to get a standard Romford mechanism inside such a small body.

A drawing was made to a scale of 5mm. to the foot to permit a gauge of 16.5mm. to be used so that the loco, when complete, could run on other layouts. It was found that the error in gauge of 1½mm. was not sufficient to be really apparent.

Working to this scale showed that a motor could be just squeezed in if a Belpaire firebox were to be fitted instead of the round-topped one which was fitted to the prototype, and so it was decided to accept this variation.

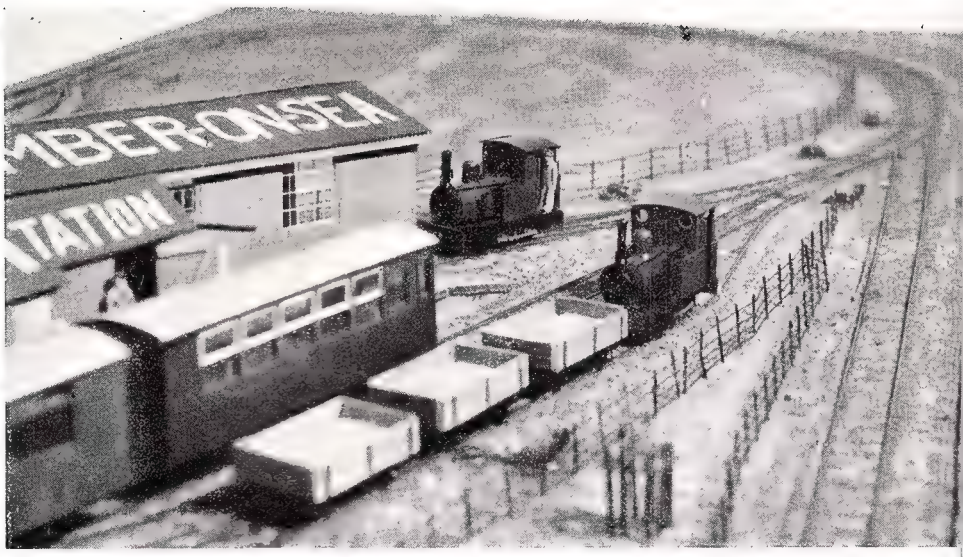
There were other important considerations to bear in mind when deciding on this scale, the principal one being that the whole layout had to be built to fit a baseboard five feet long by two feet across. This entailed the use of curves of not more than ten-inch radius and at the same time the complete prototype layout at Rye had to be incorporated in this small space, as well as facilities for continuous running.

To return to the loco problems, the one which immediately became apparent was the old one of suitable wheels, together with the fact that the usual direct worm drive would be impracticable from the point of view of space considerations. The driving wheel problem settled itself by the employment of American 10mm. bogie wheels, which were obtained from some scrap bogies which came my way. These wheels are insulated on one side only and it was a simple matter to remove the uninsulated wheels to insert the axles through the side frames of the chassis.

For the transmission a Romford 20-1 gear wheel was mounted on a jack shaft immediately forward of the leading driving axle and the drive to this axle was transferred by two small equal-sized brass gears at 7mm. centres. To find such a set of gears was no easy matter until it was found that they are readily obtainable from model aircraft stores. However, it must be mentioned that these gears are rather coarse and are inclined to be rough in action, but as yet it seems that precision gears of this small size are not very easily come across. For the leading wheels small brass ones of 7mm. diameter were used, of which a

CAMBER

by M. E. J. Deane



quantity had been specially turned up for me previously for another project that did not materialize. Space and the gear drive prevented a normal pony truck being fitted, but this difficulty was overcome by the leading wheels being back-slung from the front of the chassis, being mounted on an Insulaxle passing through a tube allowing a generous margin for side play.

Current pick-up was arranged in the well-known manner of a wipe contact on the tread of the wheels mounted on a piece of wire in a vertical position between the drivers, which was attached to an ebonite block let in between the side frames.

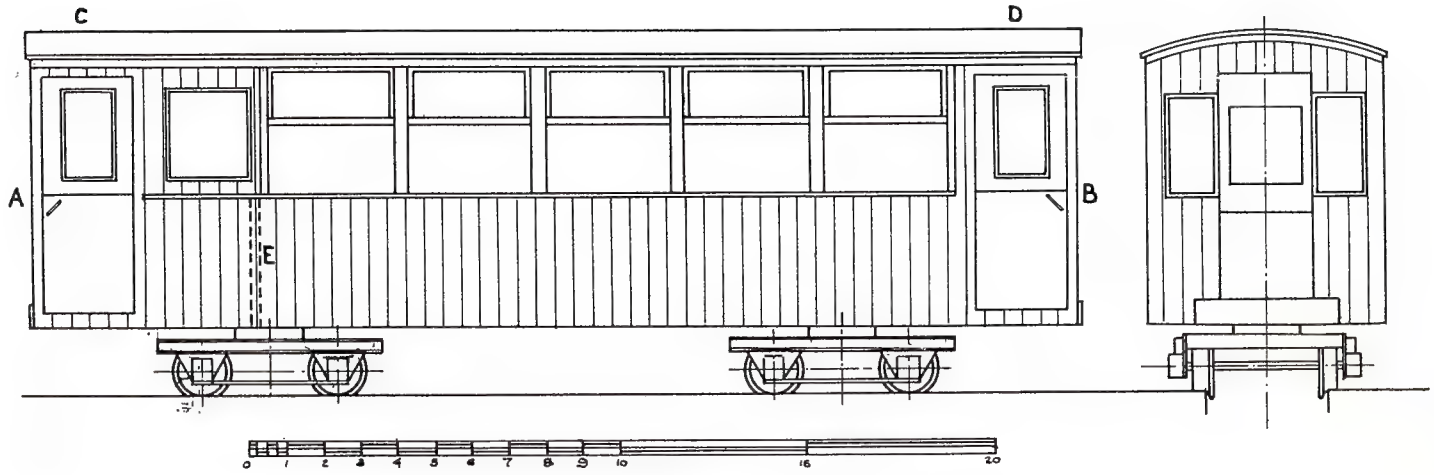
It must be mentioned that the Romford motor used in this loco was of the old type with pin-point bearings and with the brush gear mounted below the bearing plate. The conversion from the more modern type with overhead brush gear is quite a simple matter, but the additional space required by the ball-bearing cups creates a difficult problem.

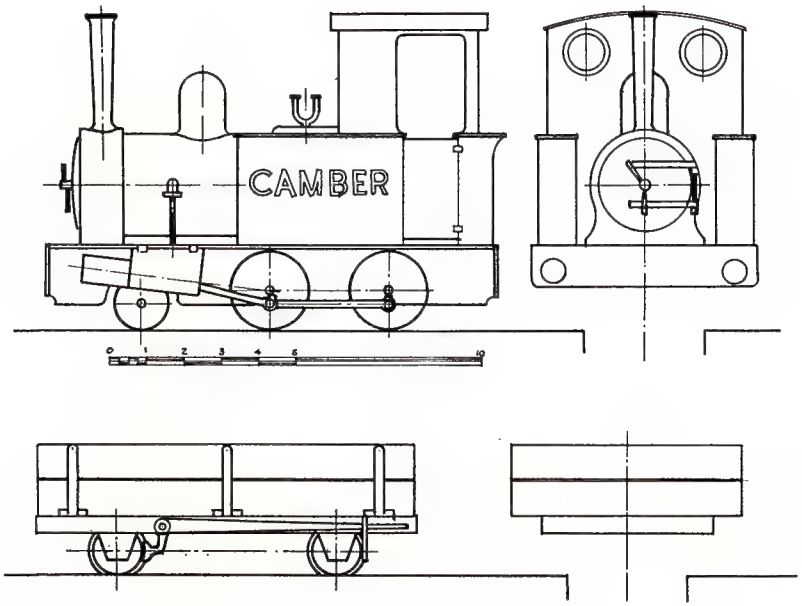
Tests with this original chassis were sufficiently encouraging to warrant the construction of the bodywork to be proceeded with, and this was a comparatively easy task except that it was found that the minimum boiler size practicable was rather larger than that used on the prototype. The boiler mountings were turned up on a small lathe and did not prove too difficult to make for a beginner in turning like myself.

Eventually the loco was completed and the next problem was the trackwork. The important specification of this item was that it had to be quickly and cheaply made and must look really like a light railway with the usual abundance of grass in evidence. In a few words the method of construction followed was to lay postcard sleepers on to a plywood base 1/16in. thick, insert gimp pins at approximately half-inch intervals and saw off the ends flush with the reverse side of the wood base. Peco sub-standard nickel silver rail was sweat soldered on to the polished tops of the gimps with solder paste. Rails were bonded together with wire and ballast was liberally applied to the spaces between the sleepers and over them. The type of ballast used was a well-known brand of washed bird sand, and this was intended to represent the somewhat shingly look of the track. A dash of grass green paint here and there was added to complete the effect.

The pointwork presented no real difficulty and the positioning of the rails was achieved by scratching lines on the plywood base by means of two pins being inserted at the correct gauge into a piece of wood used as a trammel. Sleepers were then stuck on to the point base and gimps inserted in the correct

The photographs on this page show various views of Rye station on Maurice Deane's layout. All the rolling stock—both locos, both coaches and all three wagons—the line possessed in its early days is modelled and shown. The later petrol tractor has been considered unworthy! Note the effective use of corrugated iron, in the form of the popular foil sheets.





RYE AND CAMBER STOCK

These drawings are not guaranteed for extreme accuracy, details being obtained in the main from photographs.

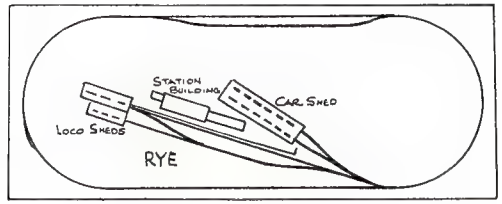
Scale : 5mm. = 1ft.

NOTES ON COACH

A. Windows this end as on end elevation.
B. Only centre door this end.
C. No door, only window on other side.
D. Neither door nor window on other side.
E. Internal partition.

NOTE ON LOCO

Based on photograph of Camber and notes by M. E. J. Deane. The circles on the buffer beam are cut-out holes. Slide bars covered by a hinged plate.



Plan of layout. Scale : ½in. = 1ft.

positions to enable the rails to be soldered in position. The same trammel system was used to build up the curved sections of the track. The general effect obtained was quite pleasing and seemed to capture the rather spidery and overgrown look that the prototype track appeared to have in the photographs.

Simplicity being the keynote of the layout, current is transmitted through the point blades by means of contact alone and seems to do the job very efficiently, except when dirt makes an occasional clean-up necessary. However, the track area is so small that a complete clean takes only a matter of moments.

The trackwork did not take very long to complete and the finished job resulted in an oval from which a turnout led inwards to a run-round loop and two sidings, which was the actual prototype layout at Rye. On the other side of the oval a passing loop was laid in to enable the locos to run round their train to return it to the terminus.

Finding that the locomotive performed very satisfactorily on this small track, a start was made on the coaching stock. An immediate difficulty arose at this point, as no information as to dimensions of the prototypes seems to have been recorded. However, by means of careful examination of photographs, it was found possible to estimate the dimensions on comparative known sizes in the pictures. The two resulting models appear to resemble the originals very well. This same snag as to information applied equally with regard to the construction of the three tiny open wagons the company possessed. Scrutiny of one photograph showed one of these wagons in a derelict state behind a shed at Rye station, and by means of a magnifying glass its general construction could be seen. Sufficient information was thus obtained and the three wagons were completed.

Materials used in the construction of the passenger cars and wagons were card and 1/16in. ply and the wheel diameters were 7mm. in each case. The passenger cars run on bogies of brass construction with wheels at 18mm. centres, while in the case of the wagons the fixed wheelbase is 30 mm. with the axles running in Peco cup bearings. Colour schemes for these vehicles are L.M.S. red with a grey roof for the passenger stock and light grey for the wagons.

Initially some difficulty was experienced with the light construction of the bogies, as derailments were caused by the slightest irregularity in the track, but this was overcome by the fixing of printer's slugs between the bogie frames, adding considerably to their weight in the correct place. Needless to say, the wagons are also very light, but these have been weighted down with lead and they ride sufficiently well to enable loose loads to be carried with confidence.

The two steam locomotives of the Rye and Camber.

Another view of Rye. Once again Maurice Deane has captured the spirit of the prototype.

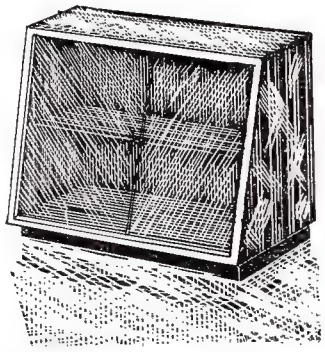
The final point to be considered with regard to the locomotives and rolling stock was that of an efficient coupling which would operate successfully on the very sharp curves on this layout. At the same time such a coupling must closely resemble the type fitted to the prototype. It was found that the old hook and eye type was the only one that completely filled the bill and a neat model was devised using a 1/16in. brass bar with dummy buffing plate made from a large brass washer. This was drilled to take a piece of wire to function as an inverted hook and for the other end of each vehicle the wire hook was replaced by a piece of wire to which was soldered a 14 B.A. washer. Plenty of side swing was allowed for, and although this type of coupling would be judged primitive in these days, at least it allows the coaching stock and wagons to be propelled through nine- and ten-inch radius turnouts with reliability and freedom from derailment.

Eventually the second locomotive was built to almost the same general specification as the original effort, differences being in the wheelbase and boiler mountings. The exact dimensions were found in one of the small handbooks issued some years ago which dealt with the smaller independent English systems. Both locomotives are painted in their correct colours, one being in blue and the other in green. The names of "Victoria" and "Camber" have yet to be added to their side tanks.

With regard to the buildings which can be seen in the photographs of this small layout, they have been copied from the originals to be found at Rye and are of corrugated tin construction, as were the originals. The design is rather Spartan, but they give the light railway touch to the model, and one of the interesting problems to solve was the matter of the huge letters on the roofs inviting patrons to travel to Camber-on-Sea. This difficulty was overcome by drawing out the required letters on tissue paper, these being then cut out and stuck on the corrugated roofs and afterwards painted over in white.

As no figures of passengers and loco crew are available commercially in 5mm. scale there was nothing for it but to endeavour to make them. This was accomplished by using Barbola paste, which proved very easy to work with, drying hard reasonably quickly and taking oil paint well. Complete scenic effects will follow in due course.

In conclusion it is hoped that these notes will show how the various difficulties in constructing an unusual layout have been surmounted, resulting in an almost complete working tramway layout in the space of two feet by five feet after nine months' work.



RAILWAYS AND FURNITURE

by R. W. G. Bryant

I WAS rather interested in the problem posed in the first of last year's summer layout competitions, although I did not have time to work out my solution of that particular one, for there must be many people who have to organize a layout in a room which is also used for other purposes.

Now there is at present a good deal of fun and games going on in the furniture trade, due to the "battle of the styles." Probably there are a good many model railway men who, like myself, are following with some interest the development of contemporary furniture design; certainly the women's magazines are plugging it for all they are worth. Having lately furnished a small modern house in the contemporary manner, I have fairly strong personal views on the subject. I'm all for it, as against the old "three-piece suite and treacle-stain" stuff. It certainly does make the place look bigger. But the pages of the RAILWAY MODELLER are hardly the place to discuss furniture in general. The particular point I want to make is that the design of contemporary furniture lends itself admirably to the incorporation of a railway layout into a living-room, with the least possible disturbance to its character. There are several ranges of "unit" furniture now on the market which can be used to provide a shelf of uniform height round a room. Sections of layout can be laid on this without need for any other support, and "bridge" sections across doorways and fireplaces arranged as required.

The well-known "G-Plan" range, for example, which is in the shops all over the country (usual disclaimer), includes a series of bookcases 2ft. 9in. high. There are 3ft.-long types, with glass or part wooden sliding doors, and a triangular corner unit, 2ft. 3in. x 2ft. 3in. Two of the ordinary units and a corner unit would therefore give a length of 8ft. 3in. if butted on to each other. If the layout is arranged to bridge gaps it can, of course, be even longer. The snag with this range is that the pieces are only 8½in. wide at the top, as the fronts are battened; at the floor they are a foot deep. The layout base could be arranged to project slightly without impairing the appearance of the whole. Incidentally, I have a complete section of a 2mm. scale layout inside one of these units.

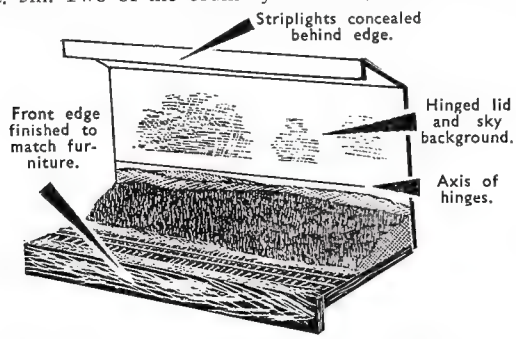

Striplights concealed behind edge.
Front edge finished to match furniture.
Hinged lid and sky background.
Axis of hinges.

Fig. 1. Section of layout to stand on bookcase top, or form a bridge between two bookcases.

The "Hunt" series of units is similar to the "G-Plan." Other makers produce vertical-fronted units, which of course have more width on top; for example, the Minty range, or the "Cumbrae" bookcases by Morris of Glasgow. But perhaps the most comprehensive range of unit furniture is that made by D. Meredew and Co. of Letchworth. To anyone contemplating a furniture-cum-railway scheme I would strongly recommend getting hold of a Meredew catalogue. Their range of "basic" units is extremely comprehensive, and they are made according to a set of standard dimensions, so that they can be matched up together in an enormous variety of combinations. Individual units have either drawers or shelves, with sliding or opening doors. There are two standard depths—1ft. and 1ft. 6in., either of which affords sufficient space, back to front, for a section of layout. Widths vary; the range includes 3ft., 2ft. 6in., 1ft. 6in. and 1ft. 3in. Using these units as supports for a baseboard, one can plan the layout on these standards, or modules. The point is that there is sufficient variety in the range for several units to be built up, of uniform height. The separate drawers, shelves and so forth are available for all the various storage needs of the household.

Whether the layout is to be fixed or demountable depends on the room concerned. I would suggest that as much as possible be fixed. Get a local carpenter to build the baseboard on the unit bases, and face the front edge with waxed natural oak to match the units. To keep the dust off, and prevent one's having to live in full view of the railway day by day (a bad thing, even for the keenest types!), have a set of hinged plywood lids made, and veneered to match. These can be arranged to lift up and provide a sky background, possibly with a suggestion of distant scenery. Excellent lighting can be provided in the front edges of these lids (Fig. 1). Where there is a relatively long unobstructed wall, I think this is the ideal way of arranging a layout, even in a one-purpose railway room. But there are bound to be obstructions, such as doors and fireplaces, which do not lend themselves to such treatment. For these it is necessary to have portable bridge sections, of not more than four feet in length for manageability, which can be stowed away when not in use.

It would also be an excellent thing, where space permits, to arrange for one large fixed unit, possibly containing the principal station, into which rolling stock can be run for storage after an operating

session without the fag of lifting it off the tracks. For this it might be possible to utilize an alcove. Perhaps a large knee-hole desk might be acquired second-hand, and furbished up. Some of these old desks have a really ample top. A light plywood lid, made to lift off, would protect the stock and station, and also give the wife somewhere to put flowers and the like.

In all the foregoing I have considered the case of the average sitting-room, say about twelve feet square, and an average layout, running round all four walls. There remains something to be said about the smaller "one-piece" bantam layout, either in 4mm. scale or, preferably, in 2½mm. or 2mm. scale. Now the manufacturers of bed-settees and the like have outdone themselves in producing ingenious ways of folding up the considerable flat area required by a double bed—which is adequate for a bantam layout. I have often thought of acquiring an old bed-settee, de-gutting it, and producing a layout in the remains, but I have never worked out a scheme in detail. I see no reason why it should not be done. There is another gadget on the market now, known as a "bedinet," or some such name—I believe it is not the prerogative of any one manufacturer. There is one in which a cabinet 3ft. wide, 3ft. 10½in. high and 1ft. 5½in. deep produces a bed 6ft. x 2ft. 8in. It folds out jack-knife fashion. This is a single bed, and rather on the narrow side for any layout, even in 2mm. scale. But the principle does not depend on detailed dimensions, and in any event it would probably come rather dear to buy such an item, complete with bed. It would be as easy, and a good deal cheaper, to acquire a suitable cupboard or bookcase carcass, and to build the layout base to fit into it. Fig. 2 gives the general idea. Whether the cabinet is fitted with doors or not is a matter of taste; they are not really necessary. The outer half of the layout base, the underside of which is open to view when the layout is folded up, may be provided with a light cover of plywood or hardboard on the underside of the battens. This must be made detachable for access to wiring, point motors, and other gadgets beneath the baseboard. It may be painted, veneered or covered with wallpaper to suit the decorative scheme of the room involved. The result could be a pleasant and distinctive piece of furniture that no one would suspect of containing a model railway.

If there is an alcove in the room of suitable width —say 3ft. 6in. or 4ft. at least—then it will not even be necessary to provide a cabinet. The "jack-knife" baseboard may simply be pivoted at a convenient height, and arranged to fold out of the alcove. The only other fixture would be a shelf at about 3ft. 6in. above the floor, to keep dust off the folded layout and to provide a means of anchoring it when in this position. Clearly, the greatest length of the base in the extended position cannot be more than twice the height of the hinges on the back wall, or rear of the cabinet, as the case may be. But one might scrounge a few inches more for the outer half of the baseboard, equal to the difference in height between the main hinges and the top of the cabinet or shelf. This need be no more than three or four inches, representing clearance height above loading gauge. This back part of the layout will not be very accessible in the extended position. For this reason, as well as for the sake of appearance, I would suggest that this portion of the line should be in a tunnel. At least four legs will be needed to support the layout when extended: these may be detachable or made to fold. Where the baseboard is hinged across the centre, it will be necessary to arrange the hinges on blocks, or a pair of boards, pierced by tunnels, to allow height for buildings, signals and other fixtures.

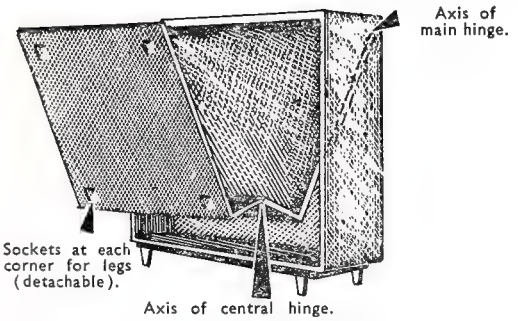


Fig. 2. "Jack-knife" layout in cabinet.

What goes on above the layout in its folded position is a matter of individual taste. There is no reason why the fitment should not be taken right up to picture rail or ceiling height if so desired. There will thus be ample space for bookshelves and other storage above the railway. The loss to the domestic authorities is thus nil. Which leads me to another thought—the ladder fitment. This is a thoroughly contemporary idea in the furnishing world. The ladders form open ends to a set of shelves, or there may be closed cupboards slung at different heights. The set-piece ladder units, as they come, are not suitable for layout conversions on the lines under discussion. The Meredew ladder units, for example, are only 2ft. 6in. wide, which is not enough for any sort of layout. But one could improvise on the theme. With a pair of 8ft. ladders, preferably of oak or some such wood that can take polish or wax, and shelves of obechi or some such wood, one could easily build up a ladder unit of layout width. The layout could be slung between the lower part, as I have described above, and the upper part built up with shelves. I have not attempted to deal exhaustively with the subject. I have simply set down a few thoughts, in the hope that they may help some people to build a layout who might otherwise imagine that they have no room. Other people will no doubt have thought up ideas that I have not mentioned.

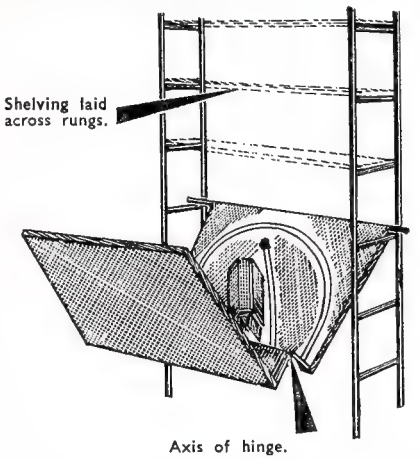


Fig. 3. Layout case to fold into ladder unit.

How I made

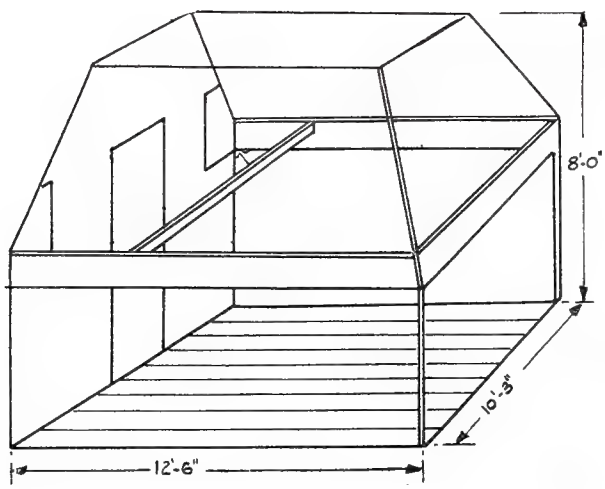
A ROOM IN ROOF

NEARLY all model railway fans come up against the problem of accommodation for their creations. Recently the time came for me to change residence, and in looking for a new place I naturally kept a "weather eye" open for that additional bedroom which is the ideal we all wish for but few of us attain. In my area at any rate the extra bedroom adds most of £1,000 to the purchase price of the property, and even at half that price few exchequers can justify the expenditure for a hobby alone. When finally I came to sign on the dotted line there was no ideally situated extra bedroom, but I had seen to it that there was space outside to erect a goodly sized shed, and for a time that was my intention; but having straightened out after the removal, and the time having come to consider my railway room requirements, I thought—very dimly at first, for I have tried it before with no success whatever—of the "cock-loft."

Now, though there was ample room for a shed of garage size, such a shed would cost approximately £50, and to fit it out so that it was clean, free from dust, properly wired and heated would add considerably more, for to attain the first two objects and proper insulation against heat the shed would need to be lined. Once again I thought of the cock-loft.

Cock-lofts suffer every disadvantage imaginable. They are draughty, dirty, subject to extreme changes of temperature, rarely floored and difficult of access. In fact their only natural advantage is that of plenty of space. Now it struck me that if I was considering the erection of a hut within a hut (by reason of the lining), why not construct the inner hut in the roof and in one swoop cut out dirt and draught and at least mitigate the violence of the temperature changes? That decided it. The next thing was to determine upon the lining. I thought of softboard and plaster board, but my access aperture would not admit the complete sheet and to halve such board would complicate the already tricky task of joins inside; so when a friend mentioned that, though the roof was proof against rain, a driving blizzard might force snow through and do no good at all to the lining, I gave up that idea and thought of roofing felt. This had all the advantages except, perhaps, that it might not provide full insulation against temperature change. I decided to plump for the best quality, the thickest and most expensive.

Having made the decision, I ordered a ladder, some flooring—thick because the joists were only 4in. x 2in. and hardly suitable to support a floor without spreading the load over as many joists as possible—and some 2in. x 1in. ribbing for doing the necessary

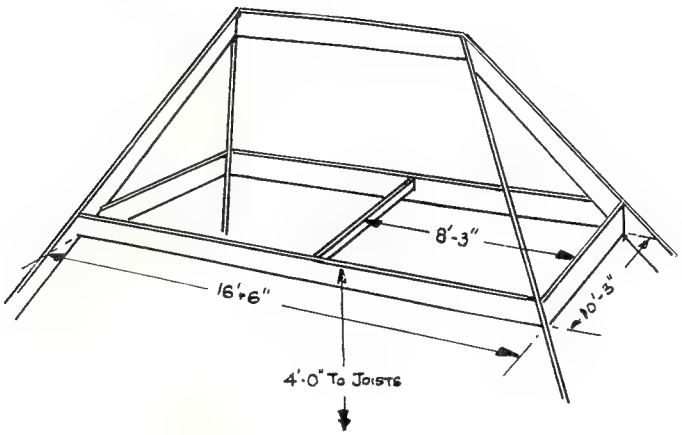


The completed room. The dimensions give the size inside the roofing-felt lining, the end "door" and "windows" provide access to the rest of the cock-loft and additional ventilation.

The internal lining cuts down dust and provides valuable insulation, the still air trapped between being a reasonably good heat insulator. However, we would point out that there are many proprietary forms of loose insulating materials that can be poured into the space between lining and roof proper.

THE

by Noel Cheney



Details of the space available.

framework. In the time before the arrival of the materials I laid a rubber-covered power line from a fuse box on the ground floor under the landing floor, up through the airing cupboard "and so to bed." The layout of the house favoured this, for in the end only four inches of cable remained visible.

The space I had at my disposal was really determined by the main horizontal supporting beams of the roof. These were eight inches deep and their tops were about four feet above floor height; they formed a rectangle 16ft. 6in. x 10ft. 3in. divided by a 3in. by 2in. spacer at the centre of the longer sides. I was in some doubt as to the purpose of this spacer, for it was not jointed in and appeared to serve for keeping the two longer beams apart rather than together. I wondered if this was erected to take the strain when the roof was first put up and now served no purpose, but, thinking that a thick layer of snow can be a very great weight, and considering that the consequences would amount to disaster if the spacer was needed for that contingency, I decided to play safe and leave it in.

The suggestion was made to me that the spacer beam should be made the front of the baseboard and the layout built back from it, thus increasing the effective space available. This meant a baseboard height of approximately four feet, but few of us are so small that we cannot successfully operate at that height, and on consideration it seemed that we see too much of a "bird's-eye view" of model layouts. The outcome was that the suggestion was adopted and the final plan developed for a room 10ft. 3in. x 12ft. 6in.

It now became necessary to cover in the rafters with the roofing felt and to build a back wall, also to be so covered.

The first job was to join opposite rafters with the 2in. x 1in. ribbing at a height eight feet from the floor to be, then the partition wall framing was made by joining rafters to floor joists, filling in with suitable cross bracing.

The skeleton of the room now took on an odd shape; both sides sloping inwards and the one end also. The ceiling was flat for about nine feet in length and four feet in width. The whole of this was covered with roofing felt. The first strip ran along the centre of the ceiling and down the sloping end to the end main beam; then strips were fixed running at right angles to the first one down the sloping sides. It was found that the best way of fixing these was to start at the partition wall end and overlap each successive sheet, covering the join with a strip of planed plaster lath. This material also covered the join along the ceiling. At the sloping end a bit of shaping was necessary, so the opportunity was taken to cut the corners by fitting a couple of feet of the ribbing between side and end main beams.

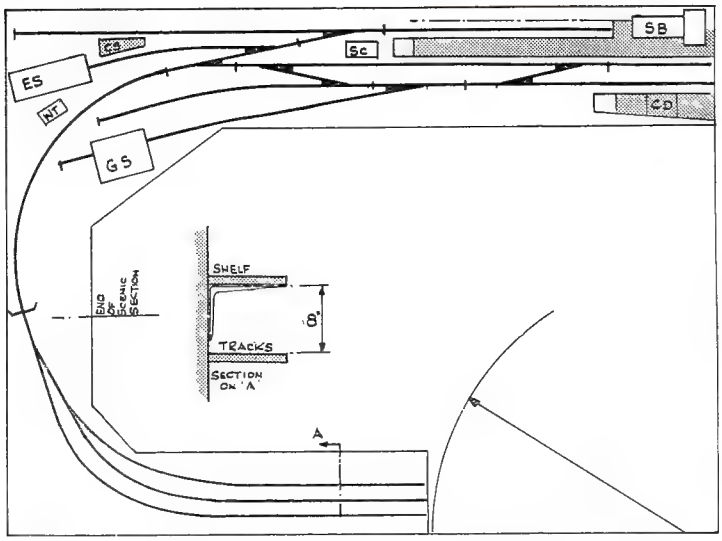
The back wall was straightforward enough, but it was considered wise to leave a door and two "windows" which were to be covered by curtains. The reason? Access to the bogy hole remaining and ventilation if necessary, but also for servicing the future layout from behind.

All this work was accomplished amid showers of dust from the tiles and quite a technique was evolved in standing under one piece of roofing felt while attaching another. It was for this reason that the flooring was undertaken afterwards. No comments needed here except to remember that the joists were not really intended to support a floor and not to be too much of an elephant about it.

From the main beams to the floor (sides and one end) old curtains were attached. The layout does not go below the bottom of these beams and it is planned to have another set of curtains inside the front rail of the baseboard, thus trapping a goodly volume of air to act as heat insulator. There is a space of four inches between the felt and the tiles and one of four feet at the ridge. The test of hot sun has yet to come, but in the cold spell early last year, with a blizzard raging outside, I was working comfortably with no more heat than that provided by a one-bar electric fire. It took about three weeks of evening work to complete the room, though without having to consider keeping youngsters awake because of the "banging" it could be done in a lot less.

The room is clean and temperate and the only disadvantage as far as I can see is the small one of ladder access.

The cost, including the ladder, was under £10.



Layouts for the Modeller

PLANS FOR SITES

No. 63

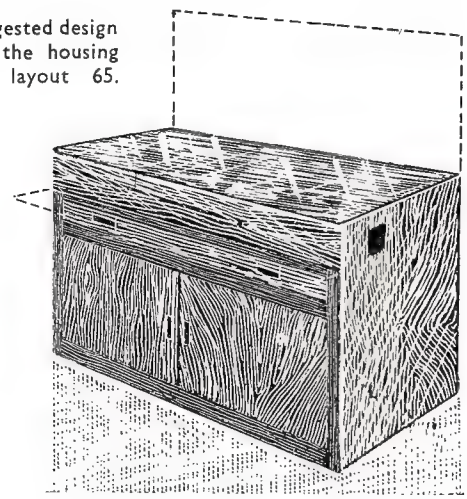
Scale for "OO" gauge: ½in.=1ft.

A simple terminus scheme for a large butler's pantry. The goods yard is conveniently placed at the front of the baseboard, with engine shed and general purpose storage siding behind the main lines. A three-road marshalling yard provides opportunity for a varied time-table.

IN my article, "Minimum Space Planning," last April I spoke of the advantages of reducing train length in order to reduce the overall size of the layout for a given set of facilities. I should now like to discuss sites for miniature layouts.

In some old houses there can be found large butlers' pantries, and my first example shows such a room—or should I say large cupboard?—that exists in the flat of one of my friends. As it has other purposes, it is quite impossible to make it exclusively a model railway room, so the plan of a single-track terminus with hidden reversing roads has been adopted. It will be seen that a shelf lies 9in. above the loops, providing additional storage for non-railway items, and at the same time masking the hidden roads. These rooms are, unfortunately, rarely found, but if anyone can obtain right of way in such an area which is of little use other than for storage and a model railway, then all parties can be accommodated without undue difficulty.

Suggested design for the housing for layout 65.



To many beginners the idea of a terminal layout with virtually no main line seems a dull sort of affair, but this is far from the truth, as with a layout of this description a working time-table of a prototype branch can be followed. This is more saisfying than merely running a train round a small oval track, which tends to get monotonous after a while. In a small space it is rarely possible to get both a reasonable main line run *and* good station facilities, so, as the latter are the more important, the former must be sacrificed.

The second layout is based on the principles laid down by M. E. J. Deane, and used by him for many years with conspicuous success. To many it may seem incredible that run-around loops can be located behind a station with no more than thin background on hardboard to separate them, but I can assure them that, in practice, the marshalling yard is by no means obtrusive, and Maurice's layout has been highly commended by everyone who has seen it. From the operational standpoint this location is ideal when only one operator is available.

This line has been drawn as a portable one, in five sections, the station being carried on the main 6ft. by 1ft. 6in. board, the main line going on three convenient rectangular sections. If storage presents a problem, then the main base could also be separated into halves, but I suggest that it should, if at all possible, remain in position, and provide the necessary storage beneath. I would like to stress the possibilities of this type of portable layout, as all too often it is assumed that a solid 6ft. by 4ft. job is the only answer. For the construction of this type of baseboard I would refer interested readers to the series of articles by Peter Denny which we published from January to May 1952, and which are still available as back numbers. As February also contained Maurice Deane's description of his "OO" gauge model of the Culm Valley Branch, these particular issues are extremely useful to the space-starved modeller.

This sort of layout, which I think could well be termed the Deane type, combines the principal advantages of a point-to-point layout with those of a con-

RESTRICTED

by C. J. Freezer

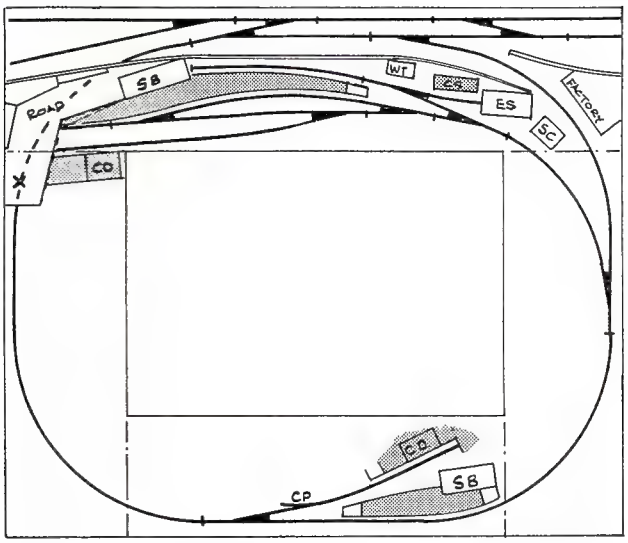
No. 64

Scale for "OO" gauge : ½in.=1ft.

A portable layout on four rectangular baseboards, based on the principles laid down by M. E. J. Deane. The section of roadway marked "X" is removable to assist accurate alignment of tracks across the joint.

KEY

S.B.—Station building ; S.C.—signal cabin ; G.S.—goods shed ; E.S.—engine shed ; W.T.—water tower ; C.S.—coal stage ; C.D.—cattle dock.



tinuous system, and has a nicely balanced proportion of main line and station facilities. In the present case, the continuous run has been disguised as a factory spur.

The absence of gradients and the comparatively easy curves make this a very attracive layout from the constructional point of view. Scenically, the open sections offer plenty of sites for development, but town scenery behind the terminus is limited to a flat or semi-flat background in front of the run-around sidings, and a sky and countryside background at the rear of these. This does give a remarkably fine illusion of depth.

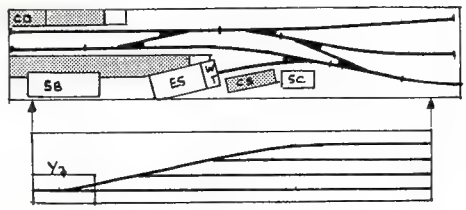
The final layout is intended for those whose living space is extremely restricted. It consists merely of a small terminus together with a set of storage roads, enabling the station to be operated in a prototype manner, even though crane shunting* is carried out in the storage sidings. It will be seen that there is no need to shunt trains through the tunnel, only locomotives need enter here for a short distance, thus this particular layout is especially suited for such a location.

Such a layout can easily be built up as a piece of furniture, and, as will be seen from my perspective sketch, would resemble a rather large sideboard. The storage roads would form a drawer, the supporting legs being folded underneath. A lifting lid, with the scenery painted inside, and a drop-down front, which could, if desired, be made to represent a road, hides the layout from view, and protects it from dust. The cupboards provide storage for power unit, tools, materials and other model railway items, thus housing the entire equipment of the hobby in one convenient structure. Naturally, as this will be an article of furniture, it will be as well to have it professionally made, unless you are really expert in such matters.

It might, of course, be possible to discover in a sale a suitable sideboard that could, without undue difficulty, be rebuilt to accommodate the system. The older type is the more suitable ; contemporary styling does not always arrange two convenient drawers that could be knocked into one without too much trouble. The principal addition would be the upper section ; the backboard would be removed and scrapped. Such a conversion would be within the capabilities of the average handyman and would naturally be more economical than a specially constructed item.

Such a layout is not, strictly speaking, portable, for it will be seen that operation can cease at any convenient point in the time-table, and the stock be left wherever it is, in the station or marshalling yard. I would estimate that within a very few minutes this layout could be brought into full operation.

These suggestions by no means exhaust the ways and means that can be adopted to overcome the space bogy ; in fact we have on our files several other schemes that we shall be publishing later this year. The main point to remember is that given sufficient determination you can build a model railway—even if your chosen gauge is "O" and you live in a caravan !* Alternatively, you can always model Dartmouth station.



No. 65

Scale for "OO" gauge : ½in.=1ft.

"The layout in a sideboard." The marshalling yard is intended to be stored beneath the main section, which is permanent and is ideally arranged as an article of furniture. An inverted open-ended box is placed across the section "Y" to give a tunnel effect. Note particularly that it is not necessary to shunt into the tunnel with this layout.

* Stock is lifted and sorted by hand.

* See W. Michael Salmon's "Walling Valley Line," described in the November 1951 R.M.

A SPACE SOLUTION

by G. D. Lovering

AFTER reading every copy of the three model railway publications for several years, I realize that the space problem is certain to be with us for ever. Suggestions and solutions regarding innumerable aspects of this problem have been put forward on many occasions, each one making an individual approach which must have helped many readers who have not yet started on actual constructions and infuriated others who learn, too late, of a better solution to their own problem.

This suggestion, which I have tried with success, may be of assistance to those who own a car and therefore feel that the restrictions so imposed on their garages are insurmountable when vainly searching for adequate space in which to start building a model railway.

My garage measures 16ft. by 10ft. and houses a car, a work-bench and a fairly extensive "OO" gauge railway with two termini and a continuous circuit. On the left-hand wall (car's nearside) the shelf carrying the tracks is three feet wide and the other side has a thirteen-inch shelf which is hinged to the wall and folds downwards if necessary, though it is quite possible to get in and out of the driving seat with this shelf up. The shelf spanning the head of the garage is about six inches above the top of the work-bench and is, therefore, removable when not required. However, the section across the door was obviously the main problem, as the car and the railway make rather conflicting demands.

The door section, for want of a better term, is 6ft. by 3ft. and carries a large control panel besides much track, a station and a village. This section, while being too big and heavy to move easily, could certainly not be a fixture and so obstruct the comings and goings of the car. This difficulty was overcome by raising this section on a permanent hoist system operated from outside the garage. It can be lowered and the railway used only when the car is outside, so over-proud car owners should not apply !

Fig. 1 shows the knotted ends of four ropes threaded through the brackets A screwed into the ceiling, and passed under the pulleys B and back over pulleys C and D, also fixed to the ceiling (pulleys D are double), and then in pairs through two small holes in the wall.

Fig. 2 shows the two double pulleys over which the ropes run when they reach the outside. The ropes are ultimately joined by a length of angle iron, which enables an even pull to be exerted on them, prevents them being drawn too far over the outside pulleys and acts as a counter-balance to draw the inside ropes up to the ceiling automatically when the hooks are released from the eyes E in Fig. 1. The section is held up to the ceiling, of course, by holding the angle iron under the stops at the base of the wall.

It will be seen from the above that when the railway is in use the ropes and pulleys are well out of the way against the ceiling and when it is necessary

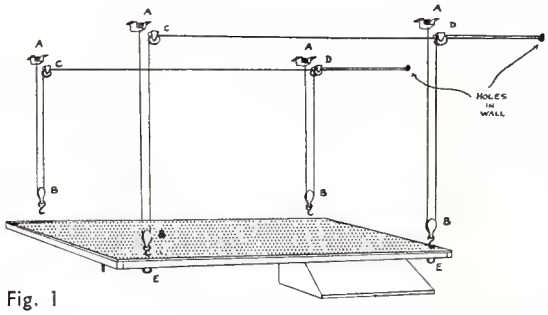


Fig. 1

to move the section it remains flat at all times, so disposing of any difficulty with unattached lineside features and even the storage of rolling stock and locomotives.

Another important point is the weight of the section when everything is completed on it, and that is why the ropes are not arranged to give a direct pull. With the system employed here, it will be seen that the bar outside must travel twice as far as the length of lift required inside and at the same time only half the weight of the section need be applied to the bar to lower it to the retaining stops at the base of the wall.

Wires from the power pack to the control panel are carried by twelve pin-plugs and/or touch-contacts, and the section is lined up with its adjacent sections by a bolt on either end fixed to the underside of the lift section and held down through collars by wingnuts (Fig. 3). If the collar is slightly oversize it helps to get exact positioning of the sections before tightening the wingnuts and so ensuring true lining up of the running rails at the breaks. Alternatively, the rail for a length of about six inches on either side of the break can be made in one piece and be removable, being held by fishplates to the fixed lengths at either end. The latter method is probably more suited to two-rail layouts, as with outside third rails any variation in level which the running rail would smooth out would mean a change in the relative position of running rails and live rails; it being necessary to have the live rail fixed to the base right to the edge of both sections.

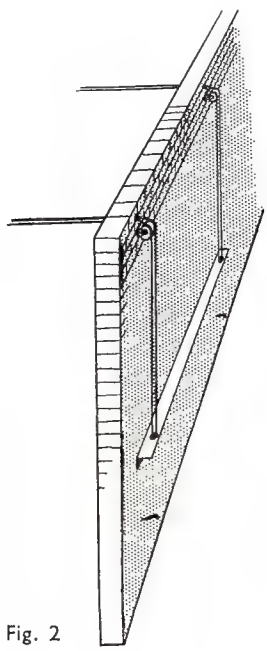


Fig. 2

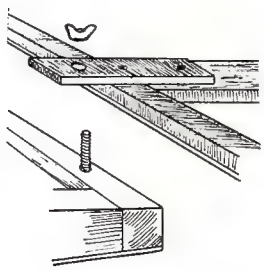
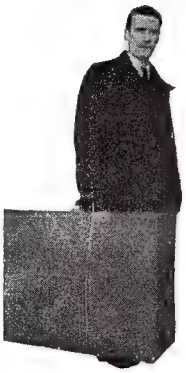
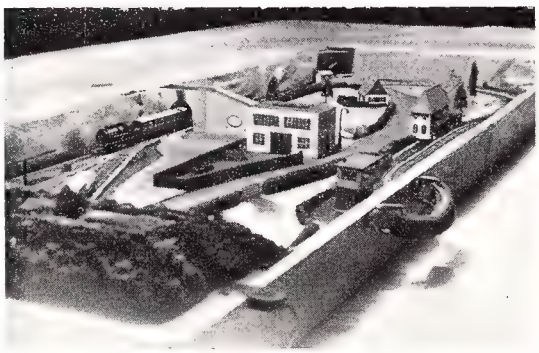


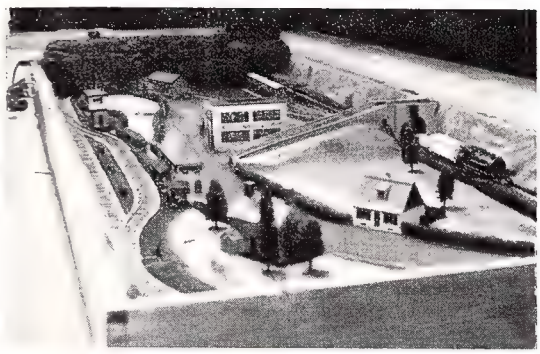
Fig. 3



A TRULY PORTABLE "TT" GAUGE LAYOUT

by E. S. Crilley





General view of the layout.

MY normal modelling activities are in "HO" scale and I have the very unusual complaint of having too much room in which to work, with the result that the layout appears to be progressing very slowly. Consequently it was decided that a little relief was called for and the idea of a truly portable outfit in a smaller scale was born. However, four conditions were laid down and I was determined to adhere strictly to these:

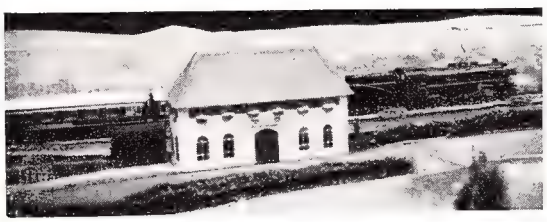
1. It must be of such size and weight that it could be carried in one hand.
2. It must be complete in itself and only require to be plugged into the domestic electricity supply.
3. It must be complete with scenery but not too elaborate.
4. The price must be reasonable.

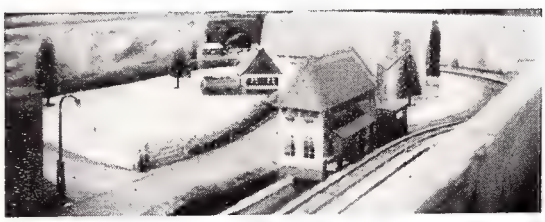
To meet the first condition "OOO" gauge was considered, but a few experiments in this showed that I had not the necessary skill for such a fine scale. "TT" gauge was, therefore, the next logical choice and after studying Rokal products, trying some track construction, and drawing up some plans, this was the gauge chosen.

The first job in the real construction was to make up a shallow tray 6ft. by 2ft. with wooden sides three inches high. The sides are half an inch thick, dovetailed at the corners, and the floor of the tray is $\frac{1}{8}$in. hardboard, rough side in, screwed at very frequent intervals to the sides. The whole thing is cut across at the centre and hinged so that it closes up into a box shape 3ft. by 2ft. by 6in. The open end is closed by a detachable piece of hardboard and a handle for carrying attached. Due to the thin sides it was later found necessary to fit two blocks in the centre of the tray for additional hingeing.

The track layout chosen is an oval with passing loop on one side and two sidings on the other. These sidings serve a bay platform and a goods shed at one of the stations. The track itself is made up from $\frac{1}{16}$-inch cork roadbed on which black paper sleepers are stuck down and at 1-inch intervals paper staples

(Continued at foot of next page)





Close-up shots of the station buildings.

RAILCAR WRINKLES

by "Merlin"

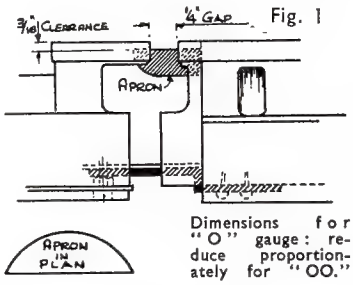


Fig. 1

Dimensions for "O" gauge: reduce proportionately for "OO."

RAILCARS are definitely space-saving items of rolling stock—but not many are seen on working layouts. I believe there are two reasons for this. The first is that up to the present drawings have not been readily available, and the second the practical point of making them work well. The following drawings are now available in J. E. Skinley's well-known "O" and "OO" series: L.Y.R. (loco and coach), G.N.R. (loco and coach), S.E.C.R. (loco and coach), M.R. (coach with loco contained therein) and L.B.S.C.R. (which for modelling would have to be treated as a separate loco and coach). A G.W. railcar coach can also be obtained in the Ratio series. The G.W. diesels, together with "Sentinel" and other steam "single vehicle" jobs, present no trouble to the home constructor. "OO" Romford motor bogies can be fitted, and in "O" gauge similar B.-L. or L.M.C. bogies. Now that C.C.W. parts are on the market for "separates" the following details of constructional features should enable all to build successful railcars.

As regards power, in "OO" it is almost essential to use a motor bogie on the coach, as there is hardly room even for the smallest "K" motor in the loco. In "O" gauge a motor bogie is rather unsightly through the coach windows, and the choice then falls on a large "K" or Romford Phantom "OO" motor in the loco, with R. G. Dettmar's 26mm. cast iron driving wheels. These motors are quite powerful enough, and will take one trailer without complaint.

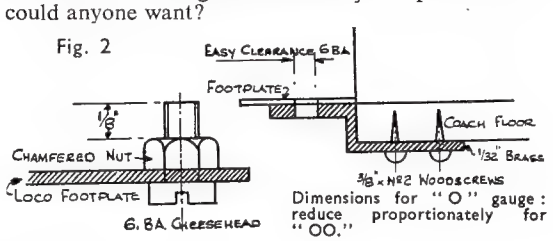
The coupling between loco and coach is the key to success. On the whole a non-equalized bogie is best for the coach—something has to hold the coach upright and this is best done by the trailing bogie! Bassett-Lowke tinplate, best quality, and L.M.C. tinplate both have enough lateral control to achieve this, and I have no doubt tha. other proprietary bogies could be adjusted to provide the necessary stiffness.

The correct theoretical position for the forward pivot is midway between the loco drivers, but this is not possible in a model owing to the position of the motor. The next best point is over the rear driver, and ¼in. behind in "OO" and ⅛in. behind in the "O" gauge is tolerable. More than this tends to make the loco "sit up and beg."

The pivot between loco and coach should really be a universal ball-and-socket joint, as the footplate and coach floor may lie in different planes one or two degrees either side of horizontal on curves and when changing gradient. This is beyond practical possibility for most of us, and an 8 B.A. bolt with a well-chamfered nut is quite satisfactory in "OO" and 6 B.A. in "O." The diagrams 1 and 2 should make this quite clear without any further explanation.

As a tailpiece it may be said that a branch can hardly be too short for a railcar, provided it is separated from the main line by a short tunnel or overbridge, and the terminus need not even have a run-around. What greater economy of space or cash could anyone want?

Fig. 2



Dimensions for "O" gauge: reduce proportionately for "OO."

A TRULY PORTABLE "TT" LAYOUT *(continued from previous page)*

pressed through to form railplates. PECO "TT" flat-bottom rail is soldered to these and the completed sections are stuck down to the floor of the tray. The track has proved most satisfactory.

The power pack is built into one end of the tray, with a small transformer and half-wave rectifier in one corner and the controller in the other. A 50mfd. condenser is shunted across the power output. This arrangement was chosen so that the smallest and lightest pieces of equipment could be used and results are quite good. The whole of the power supply arrangements are covered by the cork tunnel, which has a removable section to allow of adjustments or repairs and coping with derailments.

As the Rokal locos and rolling stock are very definitely German in outline, the scenery and buildings are also, with two exceptions, made from German designs. One of the exceptions is a modern factory building in the centre, which is, in fact, formed by the two blocks previously mentioned. They are masked by concrete-coloured card with glazed windows. The other is a very neat little house, built from a printed card which came from a packet of Rinso. Embankments and fields are lint, dyed green; hedges and trees are loofah, dyed darker green; and a variety of paints, both oil and water, were used to produce the remaining scenic features.

The rolling stock consists of a Rokal 2-4-2 tank loco with a home-built two-coach articulated unit, three Rokal wagons and one home-built wagon. Provision is made for carrying these in boxes fastened to the detachable end-piece.

Closed and ready for carrying, the whole outfit weighs 26lb. It took the spare time of six very interesting weeks to construct and now I have a unit which can easily be taken anywhere.

P.D.H. wins the 1954 R.M. Cup!

This latest photograph of P. D. Hancock's Craig and Mertonford Railway is particularly appropriate, as by an overwhelming majority vote his articles on this famous system have won him the 1954 Railway Modeller Cup.

HERE is an odd photograph I have managed to take recently which may be of some interest. It shows the latest addition to the C.M.R. loco stud—a 2-4-0 saddle tank which purports to be a Baldwin of some kind or another! It actually started out to be a Forney type 2-4-4, but something happened halfway there. The "smoke" from the chimney is cotton wool, removed halfway through the exposure. The American type "boom car" which is used on the C.M.R. as a work-vehicle is adapted from a Ratio brake van kit—which seems to show that these kits have a certain value for the free-lancer. It is an especially light vehicle and is normally harnessed up to "Duncan," my vertical-boilered monstrosity. It is the one bit of rolling stock on the C.M.R. that "Duncan" can actually haul—though it has a hard time of it on the grade to Ormistone!

Incidentally, the threat which I made at the end of my general article on the C.M.R. to extend the line a bit farther is now in the process of being fulfilled, and the day when I can really work out a proper operational timetable for the C.M.R. draws a little bit closer.

P. D. HANCOCK.

After we had received the first few voting forms it became certain that P. D. Hancock would get the Railway Modeller Cup; certainly by the end of the first week he had established so comfortable a lead that we were highly tempted to wrap the cup up there and then! As more and more entry forms came in his lead increased in proportion. P. D. H. has been a contributor since our first volume and has risen, in a few years, to the front rank of the hobby. It therefore gives us great pleasure that you have chosen his masterly account of the Craig and Mertonford Railway as the best article of 1954.

We would like to pause and reflect that both the Craig and Mertonford and the Inversnecky and Drambuie, which formed the subject of the second most popular article, are essentially small-space layouts where great attention has been paid to scenic detail. This amply demonstrates our contention that mere size and complexity have no bearing on the true worth of a model railway.

RESULTS

1	THE CRAIG AND MERTONFORD	P. D. Hancock
2	The Inversnecky and Drambuie	R. W. G. Bryant
3	Another Minimum Space Layout	J. H. Ahern
4	Maintenance	N. S. Eagles
5	Constructing a Station Building	J. K. Nelson
6	Light Railway Modelling	J. H. Ahern
7	Private Owner Wagons	A. G. Thomas
8	Model Bashing	P. D. Hancock
9	Extensions and Improvements	R. Stone
10	Automatic Signalling	Norman Matthews

The result of the competition is as follows:

1st, D. Gilbert, Burnley. £3/3/-.

2nd, Ian C. McNeill, Glasgow, £2/2/-.

3rd, Flt/Lt. J. W. Charman and Ken Northwood, both of Edinburgh, share the £1/1/- prize.

Prototype of the Month

NARROW TRACK

Fig. 1. Viaduct near Llanbadarn, on the Vale of Rheidol.

We have, this month, departed from our usual practice of illustrating prototype stations to bring you some typical arrangements of narrow-gauge tracks.

Fig. 2. View across the viaduct.

ALTHOUGH I have been a narrow-gauge enthusiast for several years I had never actually seen a narrow-gauge railway until recently, when I paid a visit to Aberystwyth. From there I was able to visit the Vale of Rheidol and the Talyllyn railways, and to see the remains of the Festiniog and Corris. During the course of these visits I took several photographs of trackwork which I felt to be of particular interest from the modelling point of view, and I present them here in the hope that they may be of use to other narrow-gaugers.

The first photograph shows the sort of timber viaduct which would be in place on any narrow-gauge layout. This particular example is near Llanbadarn on the Vale of Rheidol railway, and photograph 2 gives a general view across the deck. Note the continuous check rails, the wooden block at the end of the right-hand check rail, and the fact that the rail has several of those little kinks and bends which appear with such maddening regularity in our model trackwork! It may also be noted that the track is laid across the bridge on longitudinal sleepers, although the normal procedure is as illustrated in the foreground of the same photo. Here the rail, which is of flat-bottom section, is not spiked directly to the sleepers, but is laid on railplates which are about 7½in. long by 5½in. broad. There are four holes in these railplates, but normally only two spikes are inserted in each—one on each side of the rail. In some places along the line, however, the whole four spikes are used, and this is particularly the case on some of the sharp curves approaching the terminus at Devil's Bridge.

One feature of particular interest on the Vale of Rheidol is the wooden packing inserted between the rails at some of the point frogs (photograph 3). This dodge to secure better running is often

Fig. 3. Vale of Rheidol check- and wing-rail details.

GAUGE DETAIL

by P. D. Hancock

Fig. 4. Vale of Rheidol " culvert."

adopted by modelmakers, and here we have prototype practice to back us up!

A further example of trackwork on the Vale of Rheidol is shown in photograph 4. Here we have iron spacers instead of sleepers to hold the track at the required gauge where it crosses a small ditch. This is rather an unusual little feature, and it would look very nice in model form.

Another feature well worth modelling would be a wagon turntable, and two examples are given in photographs 5 and 6. The first of these (photograph 5) is on the Festiniog railway, and consists simply of a circular iron plate with iron bars bolted across at the correct gauge. There is also a catch at the side which I presume is intended to lock the turntable in the required position. The second turntable (photograph 6) is situated at Towyn Wharf station on the Talyllyn railway. Here again the rails are simply of square-section iron, but this time we have two tracks crossing each other at right-angles, together with an embossed pivot at the centre. This turntable would naturally involve more work than the first, but it would make a much more imposing model.

Finally we have a point-lever (photograph 7), also situated on the Talyllyn railway. This is included not so much as a good example to model, but simply as a reminder that nearly all narrow-gauge points are manually operated, and whether or not we are using point motors underneath our baseboards we would do well to include manual levers on the surface—even if they are only dummies!

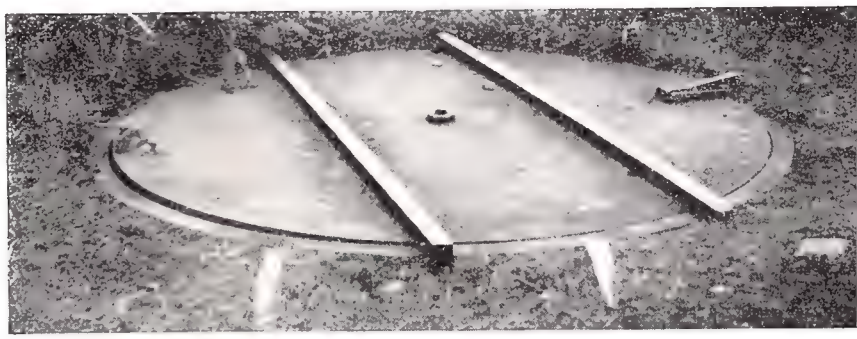
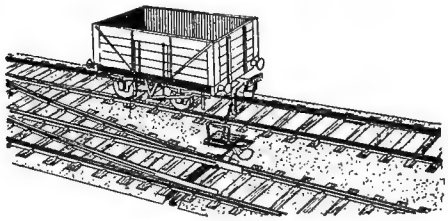


Fig. 5. Festiniog wagon turntable.

Fig. 6 (left) : Talyllyn wagon turntable at Wharf.

Fig. 7 (right) : Talyllyn point lever.

Peco Topics



ON SAVING SPACE

By S. C. Pritchard

WHEN a layout is to occupy the absolute minimum space, it is vital to see that every square inch of the baseboard is utilized to its best advantage. This does not mean that it must be wholly filled with track or buildings, or a conglomeration of both features (for open space in which to view the models is equally important), but rather that every item of the system should be laid out with regard to the model as a whole.

Undoubtedly the track is the skeleton on which the model railway is constructed, for it determines the location not only of the railway buildings proper but of the lineside industries that bring traffic to the miniature system. Therefore, as Pecoway can be cut and curved to fit even the most confined space, it offers many advantages to the space-starved enthusiast. The Pecoway point is itself made as small as practicable—it is in fact only 8½in. long—in order that pointwork can be as compact as possible. In this connection it is important to note that although the nominal radius of the point is 36in. it can be used in conjunction with the smallest of main line radii. We deliberately give the radius as a nominal figure, for in practice the Peco point is not laid out on a true curve in order that the all-important frog can be straight on both roads. This condition has been found in practice to be necessary if good running is to be experienced under all conditions.

Where a layout is constructed upon the basic oval, it is sometimes desired to take a point from the inside of the curve in order to save space. Although curved points are quite practicable, there remains the inescapable geometric fact that the radius of the inner curve must be considerably less than that of the outer curve from which the siding is to be taken. It therefore follows that it is often quite impracticable to adopt a curved point simply because the smaller radius would be below the absolute minimum for the rolling stock in use.

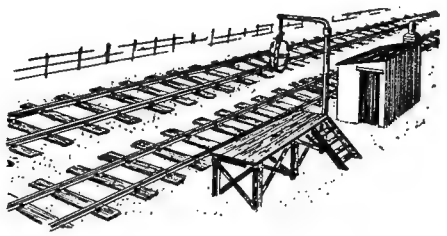
We would emphasize that, whatever else is cut down to save space, pointwork should be laid out on generous lines, as undue cramping in this respect will inevitably lead to poorer running.

We are often asked what is the minimum radius one can use with Peco track. Actually the track has no bearing on this question, for we have produced *six-inch* radius curves, albeit with some care. The problem is to find rolling stock that will take such curves. Tramcars alone fill the bill, though, by restricting the rolling stock to small tank locomotives and four-wheel wagons, radii of the accepted absolute minimum of 15in. have been used with success. However, we would recommend that sharp curves such as this be avoided by comparative beginners, because of their restrictive nature; our recommendations are that a 24in. radius curve be aimed for on the main lines, and that sharper curves should be confined to branches and sidings, where large locomotives and long coaches need not run.

Buffer-locking can be the curse of layouts with sharp radii, for it is easy for the buffer heads to become entangled and refuse to free each other when the vehicles straighten out at the end of the curve and inevitably there is a derailment. This can be completely avoided by fitting the Peco Simplex Auto-coupler, which effectively keeps the buffer heads out of contact even on the sharpest of curves or the most objectionable "S" bends. It is easy to say "Avoid such formations," but for many modellers this is a council of perfection. The cure is simple to effect: fit Peco Simplex and enjoy perfect remote operation as well as freedom from buffer-locking.

It is difficult, unless you are a skilled draughtsman, to plan a layout on paper, especially when clearances are close. For this reason many modellers find the Peco foundation tapes and point plans invaluable, as they permit anyone to plan his system in actual size on any convenient surface before beginning actual construction. They are equally useful when adding to an existing layout.

READERS' LETTERS



This space is reserved for the free exchange of readers' ideas and opinions

THE MODEL RAILWAY EXHIBITION

The correspondence in your columns recently in regard to the above has implied one or two conclusions which are in no way accurate, and on behalf of my club I would like to stress some aspects which should not be misunderstood.

The exhibition originated some forty years ago as a show of members' work, and this is still the basis on which it is organized. It has increased in size over the years and now incorporates much more than members' models, which is the natural outcome of the ever-growing interest in our hobby.

As regards finance, in preparing this show the club risks a sum well in excess of £2,000, which in the event of an abandonment or curtailment could well be a total loss. There is also the matter of maintenance of equipment used almost solely for exhibition purposes, besides the sums spent in providing new features from time to time. These may not be outstanding, but neither are the surpluses that become available. In the matter of "profit"—if "profit" is the right word to use—the Exchequer takes full rate of tax before the organizers get a look in. Further, while the show may seem successful on the face, the coincidence of a drop in the "box office" and some additional expenditure "inside" could easily remove the term "profit" from the accounts.

Our prime aim is not to make a profit—though naturally we cannot afford to anticipate a loss—but to create, foster and maintain interest in the hobby in all the many and varied aspects which it offers.

Nowadays we are assisted in this aim at the exhibition by quite a large number of visiting clubs, whose support we gladly acknowledge.

It would not be fitting to close this letter without reference to the model railway trade and press, who also participate in our show, and without whose assistance the average modeller would have a difficult time.

Model Railway Club. J. R. ANNING.

[Note. We are including this letter at the request of the Model Railway Club in order to clarify the position raised by recent correspondence. The subject, however, remains closed.—Ed. R.M.]

PLASTER MODELLING

We note with considerable interest the article on "Real Plaster Walls," by Mr. J. Tootall, published in the October issue of RAILWAY MODELLER, and the subsequent comments by Mr. Richard Martin in the December issue, and if you would permit us we should like to add a few words to the discussion on the comparison between Alabastine and plaster of paris for model making.

Mr. Richard Martin states that he prefers plaster of paris because it is cheaper than Alabastine, because it is already white in colour, and because it sets more strongly than Alabastine.

The first point is, of course, quite correct; secondly, as most of your readers will know, Alabastine is also dead white in colour; and lastly, laboratory tests prove beyond all doubt that Alabastine, when dried out, is by far the stronger material of the two.

Two further points not yet discussed are: (a) Alabastine remains open longer than plaster of paris, allowing greater freedom of working; (b) Alabastine has the ability of adhering to most surfaces without any "key," whereas plaster of paris will not adhere without "keying" and will flake off sooner or later.

It would appear that your latter correspondent is not really familiar with Alabastine and therefore is not qualified to compare it with other materials.

With reference to Mr. J. Tootall's article, the models illustrated bear a masterly touch and are authentic in the extreme. For such craftsmanship surely a degree of permanence is desirable, and the finest materials should be used to achieve this end, even at a greater cost.

We feel that Mr. J. Tootall's illustrations establish his qualification to give instruction to his fellow modellers, and we are flattered to learn that our material was used to his obvious satisfaction.

Alabastine Co. Ltd. J. A. HOOKER.

LAYOUTS FOR THE MODELLER

I have for long admired the way in which, month after month, layout diagrams appear, covering a vast field of possible tastes, but still retaining the essentials of orthodox railway practice. I cannot however, resist a gentle dig in the ribs at No. 61, which is not for the beginner but for the advanced worker to "indulge the subtleties of prototype station operation."

A train arrives in the clockwise direction, which for shortness we will call down. And then what? It might change engines, but only if the new engine has meanwhile been occupying the through road. An extra siding in the top right-hand corner would avoid this, and two engines could be held here as at Exeter Central, to take the train forward in two halves. But the engine cannot get to the shed without either running through the platform line or shunting back into it after having run "wrong road" on the through line. There should be provision for an engine to run to the shed without fouling the platform road for longer than is needed to cross it, and then not in the working length of the platform.

If a restaurant car or a coach is detached, where can it be put except in the two long sidings leading off the up platform? If these are not coach sidings what are they? How it gets there without paralysing the entire layout and needing at least half the up

platform road clear I do not know, but if it is moved by the station pilot which comes from the shed, then a running-round operation has to be included, or the poor pilot will be trapped. Similar fantastic manœuvres are involved in getting coaches out of the sidings and on to, or into, an up train. Unless some more facing crossovers are introduced somewhere the entire operating period will be spent reversing light engines to and fro—anything up to a dozen reversals are needed even for quite simple jobs like changing the engine on an up train, and most of them require at least half the platform length.

An up goods train can leave all right, although it has to use the platform line and cannot be held on the centre track until the passenger train has gone, but it will have a lot of trouble getting back. If provision is made somehow to turn it into a down goods on the sidings under the station by conjuring an engine up from nowhere to stick on the other end, after having hidden the brake van or transferred it to the other end in exchange for the loco, the only advice one can give the driver is to strike, for by the time he has got his down goods into the yard and extricated his engine and got it back to the shed from which it is presumably supposed to have come he will be in no state to go out on the road again.

Incidentally, the advanced enthusiast would expect a prototype station to have a spur so that it would not be necessary to stop all down passenger trains every time a loco had to be moved between the turntable, coal stage and shed.

It is curious that, in spite of the generous trackage and lavish provision of crossovers, this is virtually a "one-man" layout, as, except for two trains continuously going round and round, it is almost impossible to move more than one engine at a time owing to the conflicting routes. What would happen with cab control with three cabs baffles the imagination !

London. P. E. BARNES.

[The layout in question was designed to be built, maintained and operated by one enthusiast, hence we considered it more important to simplify a large and complex station than to produce a layout that would need three or four experienced operators to utilize all the tracks at once.

We would also like to point out that the centre roads are not, strictly speaking, through roads at all —taking Exeter Central as our inspiration, we decided that, except for goods, all trains would take the platform roads. The inner roads are therefore mainly avoiding lines of a secondary nature and can be used as lie-by sidings.

Even on prototype stations fouling is commonplace. Take four-tracked Totnes. There ought to be a bay for the Ashburton branch, but there isn't. As a result, the 14XX and trailer spends most of its time at Totnes dodging main line traffic. It all adds to the fun, if you've a mind that way !—C.J.F.]

LIGHTING OF HEAD AND TAIL LAMPS FOR LOCOS AND ROLLING STOCK

This is a most effective way of artificially lighting model lamps, which is achieved without the use of electric power or any other form of lighting—namely by fitting in the model lamps (Bassett-Lowke, Hornby, Leeds or similar productions) artificial diamonds, often termed glass diamonds or brilliants. These *reflect* wonderfully electric room-lighting, sunshine and even good direct daylight. Furthermore, as the model train moves along on its journey, the brilliants reflect the various planes of light coming from the room lighting or sunshine, and in so doing, because they have many planes or edges themselves, they twinkle in and out—sometimes shining very brightly, sometimes glowing dully, and at other times going "out" completely for a few seconds, only to twinkle "in" again as the train moves along. All this gives a very realistic representation of the twinkling in and out of the oil lamps still used on our railways.

The brilliants I am now using on my layout for this "reflective" lighting are obtainable at most "arts and crafts" shops, (not *model* shops) in sizes of $\frac{1}{16}$in., $\frac{1}{8}$in., $\frac{3}{16}$in. and $\frac{1}{4}$in. diameter, in red, green, blue and "white," at prices from about 9d. per dozen. They have a pointed or "pipped" back and can be very easily fitted into the types of model lamps already mentioned. I fitted upwards of twenty lamps with them in a couple of hours. First drill a tiny hole in the lamp face, after filing away the painted "bull" and preparing a flat surface to receive the brilliant—this tiny hole is to receive the pointed back of the brilliant, and a larger hole drilled on the smaller one, of a suitable size, will ensure good fitting of the brilliant, which is fixed in place with a spot of Seccotine—paint retouching afterwards is generally necessary.

I have this form of "reflective" lighting in use on my own layout for loco and rolling stock lamps—both headlamps and red tail lamps. Both are extremely effective if carefully and properly fitted, but be careful not to sink the brilliants too deep in the lamp-face or a proportion of their reflective power is lost.

It has also occurred to me that there may well be many other forms of lighting on model railways which could be reproduced by the use of brilliants, such as signal and ground disc lights, hand-lamps carried by shunters, etc. Also there is the possibility, where *real* electric interior lighting is used in coaches, of reproducing the effect in miniature of shoulder-height "reading" lamps by the use of brilliants, which would reflect the interior coach lighting. This is a field which needs some experimenting, but which seems well within the range of possibility. The head and tail lamps on trains are a definite success. To enthusiasts interested in this phase of our hobby I wish good luck and "brilliant" success.

Ilkley. ALAN SHACKLETON.

PLASTER MODELLING

A recent correspondent suggests the use of surgical plaster for modelling buildings. Enlarging on the same theme, I suggest he might care to try Cellona plaster-impregnated bandages for parts of buildings for which it is not convenient to make a mould. These can be built up in layers and the surface worked smooth to cover the bandage, but the bandage would be there inside to reinforce the finished plaster.

In conclusion, may I say that it was indeed a pleasure to see my own "Walling Valley Railway" (the Caravan Line) mentioned in a recent letter. In view of its present unhappy state of "service suspended" owing to my enforced removal up here it was a real comfort to think that someone remembered it so long after its last appearance in public. However, it is all safely stored and perhaps trains will run again some day.

Radnor. W. MICHAEL SALMON.

CLUB NOTICE BOARD

featuring popular personalities and society news

Personality Parade No. 38

E. G. Cope

Narrow Gauge Railway Society

E. G. Cope was born in 1924, and coming from a railway family has been interested in the hobby ever since his first train set. However, he began serious work on a scale line in 1948. This was to be in 4mm. scale, but soon, for a reason he cannot explain, he became interested in 7mm. scale as well. Work on both gauges continued, tempered by a rather lengthy spell in hospital.

In 1951 he founded the Narrow Gauge Railway Society, to bring together people interested in this particular branch of the hobby. The society, naturally enough, has a strong model bias, and has put on many fine displays at major exhibitions. His own efforts are, naturally enough, in 4mm. and 7mm. scales, coupled with a strong interest in continental modelling. This was well brought out at last year's Birmingham Conference, where he produced a proprietary *clockwork* 7mm. scale 16.5mm. gauge model of a narrow gauge diesel loco, obtained on his continental summer holiday, and completely stole attention from the array of fine models on the table !

One final ambition, which looks like being fulfilled in the near future, is the acquisition of a small narrow gauge steam loco.

NOTES AND NEWS

Copy for these columns must be received five weeks before publication.

BOLTON MODEL RAILWAY CIRCLE

Railway modellers in Bolton, Lancs, are invited to join the above circle, which has recently been formed.

Interest at present centres on gauges "O," "OO" and "HO," and includes English, American and free-lance practice.

Further particulars may be had from the hon. secretary, Mr. E. D. Whittle, 21 Tavistock Road, Bolton, Lancs.

THE HAMILTON MODEL RAILROADERS (N.Z.)

It was with considerable pleasure that we received, shortly after Christmas last year, the duplicated magazine of this go-ahead New Zealand club, entitled "The Footplate." In a covering letter, Les Street, editor of the journal and club president, explained that they were as yet comparatively small, but judging from the contents of the magazine what they lack in numbers they more than make up for in enthusiasm.

The club has been busy preparing the site for the new clubrooms, which, appropriately enough, take the form of an old coach body.

The hon. secretary is Fred West, 9 Cameron Road, Hamilton East, New Zealand.

PROPOSED CANTERBURY CLUB

Steps are being taken to form a model railway club in the Canterbury district. Will any readers who are interested please get in touch with Mr. E. E. Maplesdon-Young, "Vernon Cottage," Babs Oak Hill, Sturry, near Canterbury, Kent ?

PROPOSED WEARSIDE AND DISTRICT CLUB

Would all interested persons in or near the Wearside district of Co. Durham please contact R. Lofthouse, of 31 Darien Avenue, Fulwell, Sunderland, Co. Durham, with a view to forming a model railway club ?

FEBRUARY MEETINGS

BIRMINGHAM MODEL RAILWAY CLUB

3 Model Railway Operation—J. P. Addenbrooke.
9 Track Night.
17 Prototype Building Practice in Relation to Models—T. W. Bourne.
23 Track Night.

HULL MINIATURE RAILWAY SOCIETY

3 Signalling on a Single Line—W. A. Scutcher.
10 Track Night.
17 Scenic Effect—J. W. White.
24 Track Night.

LEICESTER MODEL RAILWAY GROUP

15 The Great Central Railway—Mr. Webster.

MANCHESTER MODEL RAILWAY SOCIETY

12 Clockwork Modelling on the L.N.W.R. —F. Shaw.

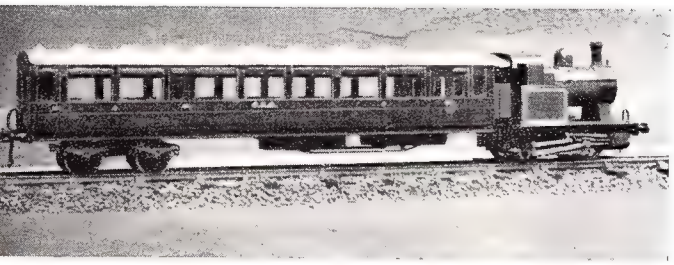
MODEL RAILWAY CLUB

3 The London, Brighton and South Coast Railway—J. N. Maskelyne (at Caxton Hall).
17 Track Night—L.M.S.
24 Press Photography of models for the Model Railway Exhibition.

WIMBLEDON MODEL RAILWAY CLUB

9 Rummage Sale.
23 Some Safety Devices on British Railways and London Transport—H. P. Roberts.

NEWS AND VIEWS OF TRADE INTEREST TRADE



Douglass Models G.N.R. railcar.

WE are devoting the main portion of this Trade Window to a brief survey of many of the items currently available from the trade that are suitable for small-sized layouts and will operate on two-rail B.R.M.S.B. standard tracks. We do not suggest, however, that the list is complete, as we have confined our attention to items submitted to us for review.

The modeller who has little room to spare for his layout must needs consider all ways of saving space. He will therefore find that rolling stock that will negotiate sharp radii or will not occupy too much room in the platform roads enables him to accommodate more in a given space. Fortunately both conditions can be met by the same type of stock.

LOCOMOTIVES

First and foremost comes the question of motive power. Small tank locomotives are the popular answer, for quite apart from their short length there is no need to provide turntables at termini. A very useful trio is provided by the three Reidpath cast body locos, which are available complete or as parts. Taking them in order of appearance, they are the 0-6-0 side tank ; the Fowler 4F 0-6-0, possibly a trifle large for the smallest layouts, but a useful general purpose tender loco where space permits ; and last, but by no means least, the " Gnat," the recently introduced 0-4-0 saddle tank, based on a standard design used on many industrial lines.

The G.E.M. pannier tank provides another useful prototype as much at home on free-lance as on Western Region layouts, for the familiar pannier has spread to several minor lines.

Rivarossi provide two very attractive models, an 0-6-0 side tank of an Italian prototype, and a Baltimore and Ohio 0-4-0 saddle tank switcher, with wheels to N.M.R.A. standards. These will operate on B.R.M.S.B. track, with the proviso that, due to the greater depth of flange, bumping may occur on some varieties of track.

COACHES

Four- and six-wheeled coaches are short enough to suit the most cramped of layouts, but unfortunately the long, rigid wheelbase does not take happily to sharp-radius curves. This, however, is not the case with the Exley four- and six-wheeled coaches, which are equipped with an ingenious flexible underframe which enables them to negotiate a 15in. radius curve with ease. These coaches are available in both pre- and post-group colours.

Suburban and old-time coaches, which are shorter than more modern stock, are particularly suitable for small layouts. Both C.C.W. and Ratio provide many excellent examples of this type of stock in their wide ranges of kits. C.C.W. also provide a range of " Shorties," which are main line coaches reduced in length, usually by the omission of a compartment, in order that they may negotiate sharp-radius curves without undue overhang.

RAILCARS

A railcar or push-pull unit not only provides the minimum-space modeller with the shortest possible passenger train, it also provides his more fortunate colleague with a useful branch line train which can be effectively reversed in a tunnel.

Douglass Models provide a useful range of steam railcar units of the early separate locomotive unit type, as shown in the illustration above, in both " O " and " OO " gauges.

Although not strictly speaking railcars, the electric multiple-unit sets provided by Exley can be profitably employed on the small layout. Other electric stock, more nearly of the railcar variety, is supplied by the Rivarossi Milan set and the Swiss Red Arrow.

The Radio Western Region trailer car kits are well known throughout all branches of the hobby, but it is not perhaps so widely realized that they also provide an L.M.S. push-pull unit and will shortly be introducing some ex-North-Eastern clerestory push-pull unit coaches. Ratio and C.C.W. provide kits for Southern multiple-unit stock.

PROPRIETARY EQUIPMENT

We have excluded from this survey proprietary equipment that is not fitted with two-rail wheels suitable for use on B.R.M.S.B. standard track. We need hardly mention that proprietary equipment generally is eminently suited to minimum-space systems, once the necessary conversion to scale wheel standards has been effected. In the case of rolling stock this usually involves no more than a change of wheels, but locomotives require some mechanical aptitude, and many prefer to have this task carried out by one of the many firms advertising such services. It is also possible to obtain proprietary locomotives ready converted.

WINDOW

NEW RIVAROSSI LOCOMOTIVE

We have recently had the opportunity of inspecting the latest version of the well-known Rivarossi Baltimore and Ohio 0-4-0 dockside switcher. The model has been further improved by the addition of valve gear and headlight, the price for this "super" version being £3 14s. 8d.

The body is moulded in a firm plastic with an attractive matt black finish and possesses full rivet detail. Handrails are scale size and mounted on correctly formed supports. The chassis can be easily removed by unscrewing a single screw, and as the motor is attached by screws and the wheels are retained by a keeper plate the entire mechanism can be stripped for cleaning without any difficulty.

The performance is excellent, slow running being particularly commendable, while haulage is limited only by lack of adhesion. There is, however, ample room for additional lead ballast should this be required.

A typical Trainame board.

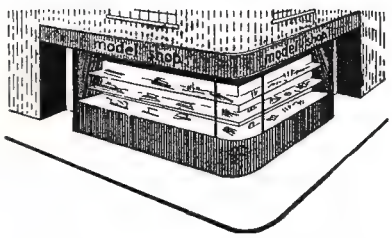
TRAINAME BOARDS

Many enthusiasts like to equip their trains with nameboards, though due to the necessarily small size of such boards in "OO" gauge it has frequently proved a difficult matter to make really neat interchangeable versions. The new Trainame boards are therefore particularly welcome, as they are printed on a special adhesive material which can be repeatedly removed and reaffixed to the roof of the coach. Each sheet, costing 1s., plus 3d. postage for any number of sheets, contains three different sets of names, each set consisting of four panels as shown in our illustration. Thus one sheet will provide names for a six-coach express.

"O" gauge enthusiasts will find that the place names make excellent destination boards for their coaches.

HORNBY DUBLO CONVERSIONS

Eames, of Reading, announce that they can convert the new Hornby Dublo 2-6-4 tank to two-rail standards, turning the wheels to B.R.M.S.B. or N.M.R.A. standards and bushing them for an inclusive charge of £2 10s. The charge for bushing, retaining the existing wheel standards, is £1 12s.



HUMINITURE KIT

Slaters have recently introduced an attractive pack containing a selection of forty-eight assorted unpainted plastic figures, together with luggage, paints and cement, for the modest price of 12s. 9d., post paid. This pack is sufficient to give a moderate-sized layout a densely populated appearance, and is a worthwhile investment for the scenic modeller.

C.C.W. PAINTS

We have also received for review samples of C.C.W. paints. These are oil-based paints, and are intended primarily for brush application, but can easily be thinned to spraying consistency. They have good covering power, even when considerably thinned, and we found no difficulty in applying an even coat with a brush.

CATALOGUES RECEIVED

RATIO (1/6)

This well-produced catalogue gives details of the many "OO" and "O" gauge coach and wagon kits produced by the Webster Development Co. Among newcomers we note ex-North-Eastern clerestory coaches, which, we imagine, should prove exceedingly popular.

DOUGLASS MODELS (1/-)

This neatly printed catalogue lists the well-known Douglass Models range of specialities for the narrow gauge modeller. In addition, there are details of some unusual steam road vehicles and the railcars reviewed above.

Grindstone

I've drawn a conclusion from all the confusion
Surrounding the average line :
Too often a man has a wonderful plan,
But of work there is hardly a sign.

Our Tom was a lad who developed a fad
For a highly elaborate network,
But found—here's the rub—that it needed a club
To construct it—he's taken up fretwork !

And Dick, too ambitious, laid curves that were vicious
To get it all into his room,
But the one-in-ten banks were too much for his tanks—
And now he's gone off to Khartoum.

Old Harry, more modest, had started the oddest
Wee narrow-gauge line to the sea,
But his rails to Portmadoc corrode in the paddock,
For wifey has got a T.V.

And as for your Joe, I had planned (as you know)
To make an impressive live-steamer—
Until I met Joan, who had plans of her own.
Could you do with the bits—and a reamer ?

There's a moral in this that I hope you won't miss,
About keeping your eye on the mark :
You'll never get done if you knock off for fun,
Or go out with a girl for a lark—
Which reminds me,
I'm late for that date in the park !

L. E. Carroll.

ADVICE BUREAU

The Bureau is at your disposal to assist you with your problems. The service is free, individual and personal, but we reserve the right to publish any query we consider to be of interest. The advice given is based on the experience and opinions of our staff.

Queries should be addressed to the Peco Technical Advice Bureau, Pecoway, Station Road, Seaton, and should be accompanied by a S.A.E. and coupon on page ix. We regret that we cannot prepare special designs for individual readers.

I have a 2-mfd. condenser, which a friend gave me, saying it would be useful for my "OO" gauge stud contact railway, but I do not know how to use it. On the side is printed "T.C.C. Mansbridge Condenser—2-mfd." Could you please tell me how to wire up this, and what its effect will be?

A.L.M., BRADFIELD COLLEGE.

The 2-microfarad condenser you possess is of no use whatsoever for model railway electrification. A smoothing condenser which is wired directly across the output terminals of the power unit must be at least 200-microfarad capacity. The condenser you possess is intended for radio use.

I am contemplating the construction of a model locomotive, viz. a Dean 0-6-0 goods. Mechanisms with wheels are unfortunately beyond my means, consequently I am going to buy a mechanism and fix on the wheels later. I would like some aid on the following points.

(a) The best mechanism (at a reasonable price).
(b) How to attach the wheels to the mechanism.
(c) How to fit the mechanism and wheels into a locomotive frame.
(d) What is the best control unit to use.

Since my prototype is the G.W.R. at about the turn of the century, could you please inform me of the experimental liveries the G.W.R. tried out at this time?

J.P., CARDIFF.

Despite the greater cost we would most certainly advise you to obtain a complete mechanism for this locomotive unless you have access to good workshop facilities, in particular an accurate drilling machine, as the construction of the main frames is the most difficult part of model locomotive construction; nor can we in the space available here tell you how to build them. If you are interested we would advise you to obtain a copy of John H. Ahern's *Miniature Locomotive Construction*, which deals extensively with the subject. The quality of locomotive mechanisms is almost exactly in direct relation to their price, therefore the best one for your purpose is the one you can most readily afford. It is, however, false economy to purchase a cheap mechanism if you require high performance.

We should like to congratulate you on your choice of a prototype, for particularly at the turn of the century, the period during which your layout is supposed to be operating, these locomotives were used on mixed traffic work; in fact their duties were far more general than a modern mixed traffic loco, as they also carried out shunting work in between runs on the main line.

To the best of our information none of the experimental liveries ever appeared on Dean's goods locomotives. The original Dean livery, which lasted till about 1908, was green upper works and Indian red frames, wheels and splashers. Lining was in black and orange and the tenders were divided into three panels. In most cases goods locomotives did not carry the involved G.W.R. monogram, which was reserved in the main for the passenger classes. Until 1908 few if any tank locomotives carried indication of ownership and in most cases the number plate was mounted centrally on the tank sides. In 1908 the new Great Western livery was adopted, consisting of a lighter green with black frames and green splashers lined out in black and orange. The tenders had a single panel with the words "Great (crest) Western" on the sides, the crest being of course the familiar gartered coat of arms of the Great Western. At this period the tank number plates began to be shifted to the bunker and the words "Great Western" and occasionally "Great (crest) Western" appeared on the sides, but this was by no means common practice. The special auto engines for motor trains, for example, never received indication of ownership until well into the grouping period.

I shall shortly be starting to build a narrow-gauge loco in 7mm.-1ft. scale, but I anticipate difficulties over the main driving wheel axles for it.

The loco will be for 16.5mm. gauge, but as it will have outside frames it will not be possible to use standard "OO" axles, such as are supplied for use with commercial "OO" wheels.

It occurs to me, however, that it might be possible to use Peco "O" gauge Insulaxles. So that I may decide, I would be grateful if you could inform me what are the dimensions of the axles, i.e. diameter and length.

J.P.C., BRAMHALL.

We cannot recommend the use even of the "O" gauge Insulaxle in a locomotive. The coating and the axle itself are eminently suited to wagon, coach, leading, trailing and tender wheels, but we have found on practical experiment that a wholly reliable fit suitable for a driving axle which must transmit considerable torque cannot be achieved.

The method of obtaining outside cranks on "OO" gauge locomotives is as follows. With Romford wheels a longer nut is used, which projects beyond the main frames. To this nut the outside cranks are secured, preferably by a force fit reinforced by solder. In the case of Hamblings wheels new axles with extended shoulders are necessary.

I shall be glad to have some information on the best method of connecting current supply wires to scale track.

H.V., DARWEN.

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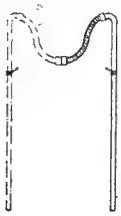

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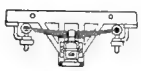

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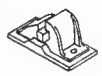

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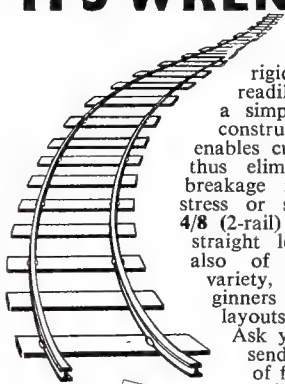

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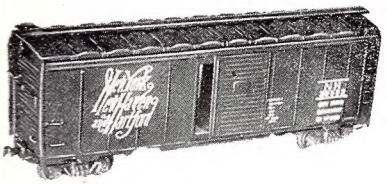

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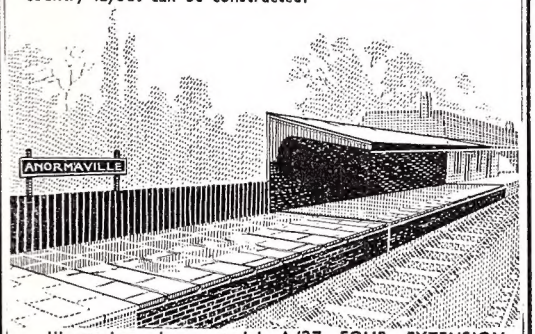

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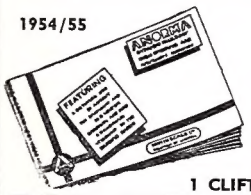

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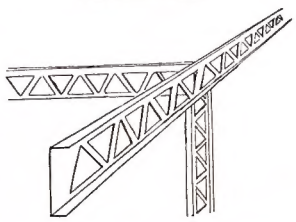

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BRADSHAW MODEL PRODUCTS

present this month the following EXCITING items ...

★

NUCRO WAGON SPRINGING UNITS ("OO" GAUGE ONLY)

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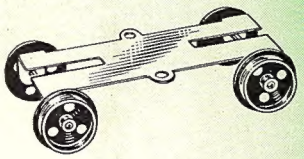
We are pleased to introduce the new Nucro springing units for those modellers who wish to build their own wagons and improve the running of old favourites. Only two screws are required to fix the unit to the floor of the vehicle. Available for 9ft. and 10ft. wheelbase as listed under.



available in the following types

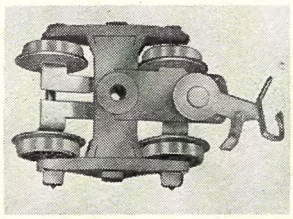
		Price inc. P.T.
R/401	10ft. spoked wheels	2/–
R/402	10ft. 3-hole wheels	1/10
R/403	10ft. disc wheels	1/10
R/404	10ft. H.D. wheels	1/8
R/405	9ft. spoked wheels	2/–
R/406	9ft. 3-hole wheels	1/10
R/407	9ft. disc wheels	1/10
R/408	9ft. H.D. wheels	1/8

and the new NUCRO precision bogies

FITTED WITH THE SPECIAL COUPLING BOSS

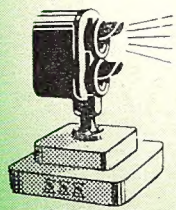
Reproduced on the right is a photograph of the new Nucro bogies, showing the special boss incorporated so that the Peco coupling can easily be fitted. This boss is now fitted to all Nucro bogies, and all the types are available as previously. The price remains the same at 7/6 per pair.

When fitting the coupling it is only necessary to lightly tap the rivet head once the coupling is in place. Although care is needed in doing this, the operation is both efficient and simple.



B.M.P. COLOUR LIGHT SIGNALS

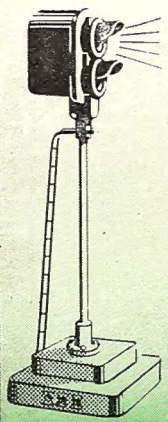
now available with 14v. bulbs



GROUND

We are now able to offer both the standard and ground type two-colour light signals fitted with 14-volt bulbs. This means they can now be used directly off all standard power units, without the need for a special transformer. The price of the 14-volt type signals, both ground and standard, is 12/3 each.

Leads are now fitted to the signals, otherwise their design remains the same as in the 2.5 type.



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In the meantime, the 1953 English version of the Rivarossi catalogue, of which we have a large supply, is available by return of post at 6d. each.

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